

PLUS CD-ROM including video tutorials and 100 stunning stock images

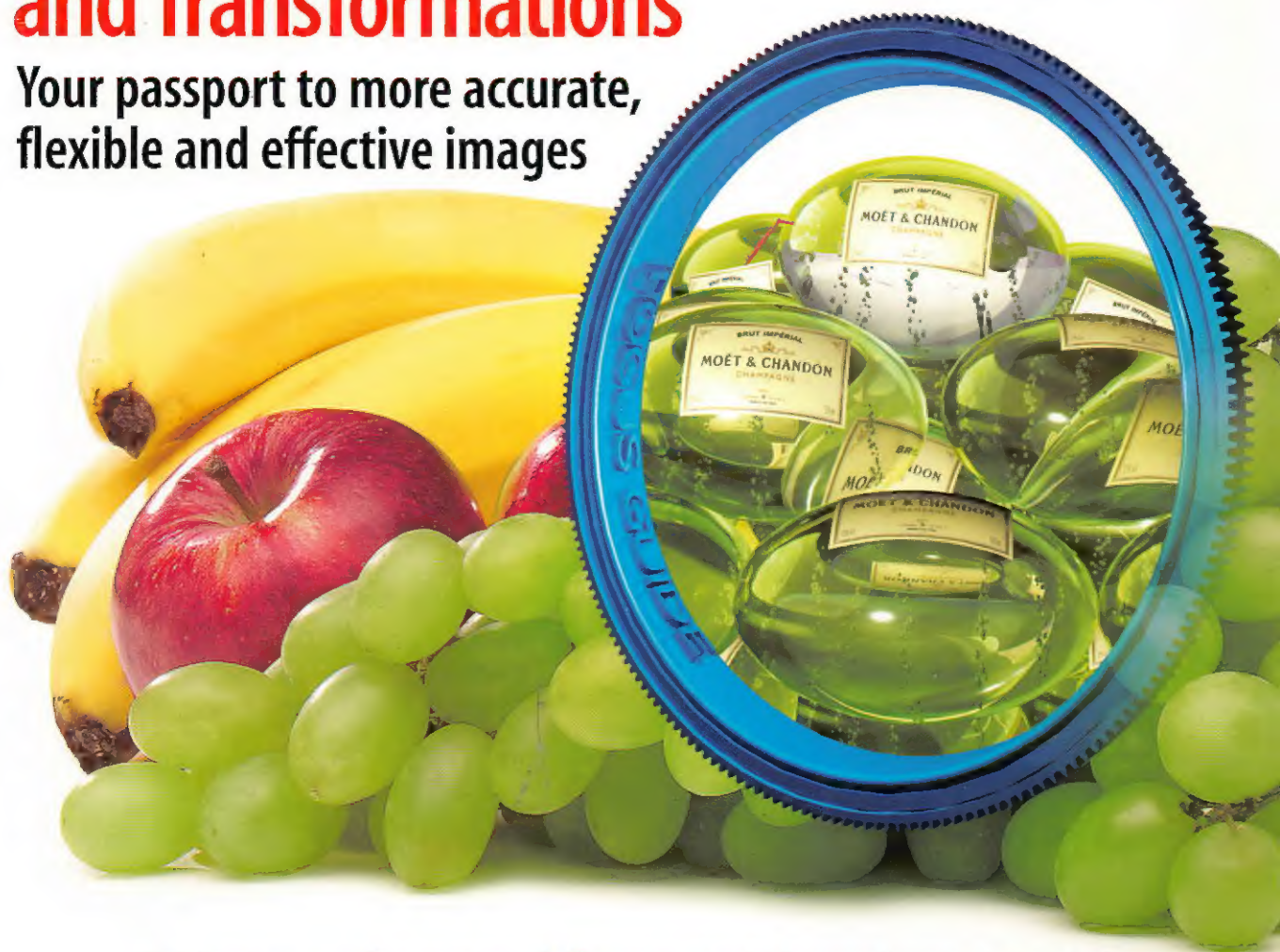
Adobe Photoshop

Selections, Vectors and Transformations



FocusGuide
From the makers of **Computer Arts**

Your passport to more accurate,
flexible and effective images



**132 pages of easy-to-follow tutorials and expert advice
to help develop your Adobe Photoshop skills**



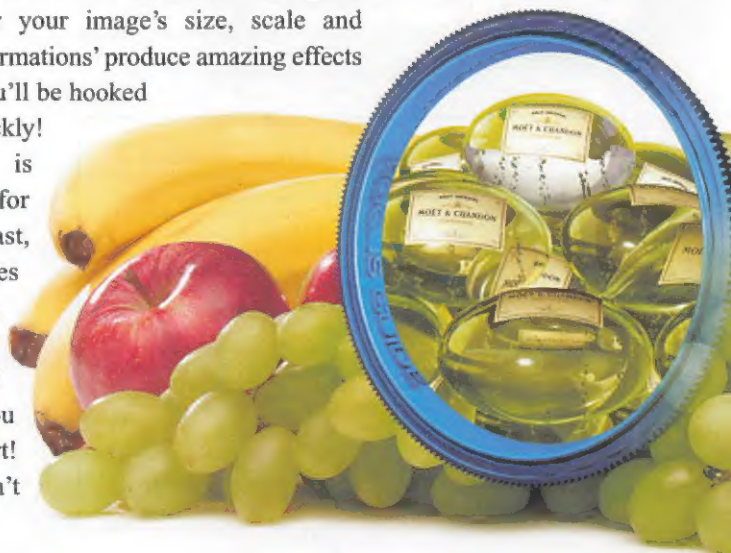
What a transformation...

Learn techniques that will make a real difference to the quality of your images. We'll guide you through it...

Welcome to the fifth issue of the Adobe Photoshop Focus Guide. This month we're upping the ante a little and moving on to some of Photoshop's most sophisticated tools for manipulating your images. Don't worry – we'll still be talking you through these features in plain English, and guiding you through lots of step-by-step tutorials. The only difference is that once you have worked your way to the end of this month's issue, you'll have a whole range of skills in your armoury that are usually reserved for Photoshop professionals. We reckon this issue will be the turning point in your Photoshop education – when you start to really feel like you've 'got it'!

We start the journey by revisiting our old friends the selection tools – this time in more depth. We'll also explain the options under the Select menu and the much-misunderstood 'alpha channel', showing you just how useful they can be in creating accurate and flexible selections. Later you'll find out about vectors, paths and shapes – and discover why their 'resolution independence' is such an advantage. Last but not least, we'll delve into the Edit menu, which gives you the power to alter your image's size, scale and proportion. These 'transformations' produce amazing effects in no time at all – and you'll be hooked on using them just as quickly!

As always, our CD is packed with resources for the Photoshop enthusiast, including 100 stock images for you to practice with, 62 custom vector shapes and the regular dose of video tutorials to get you off to the best possible start! Who said learning couldn't be fun?!





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Finding your way

Our handy icons hold the key to a wealth of additional information. Here's what they all mean...

Adobe Photoshop – and particularly the various tools discussed in this issue – is so packed full of features, it's been difficult to cram all the necessary information into this Focus Guide. That's why you'll find the special icons that occupy the margins so very useful.

As you leaf through the pages, you'll find a range of attractive symbols, each of which denotes an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're

dealing with – for a guide to icon categories, see below. These handy hints and tips are always relevant to the topic that's being discussed, and will help you develop your Photoshop skills that little bit faster.

Our writers are always experienced Photoshop experts who regularly contribute to our sister magazines, such as *Computer Arts* and *Digital Camera Magazine*. So you can rest assured that all the information they provide is both authoritative and thoroughly tried-and-tested.



On your CD-ROM

Some of the software that we refer to may be included on your bonus CD. Every now and then we remind you of this by flagging up the disc icon and listing what's on it. Handy, eh?



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful hint about using Photoshop's extensive range of tools, options and features.



Watch out!

The 'skull and crossbones' sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead we refer you to other useful resources, such as websites and specialist books for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to carry out these tasks with a few deft key-presses, saving you lots of time and effort.

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Artwork Project

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Open the images on the accompanying CD and follow the walkthrough in this chapter. You'll be using the skills we've looked at in this Focus Guide to produce a stunning image

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Chapter 1

INTRODUCING PHOTOSHOP'S SELECTION TOOLS

In this chapter...

- ☐ Create and edit selection marquees
- ☐ Learn the different marquee styles
- ☐ Get familiar with the Select menu
- ☐ Master three different Lasso tools
- ☐ Understand the Magic Wand tool

When creating any effect in Photoshop, from a colour or tonal adjustment, to a third party filter or a transformation, it's essential to select the relevant area of your image accurately

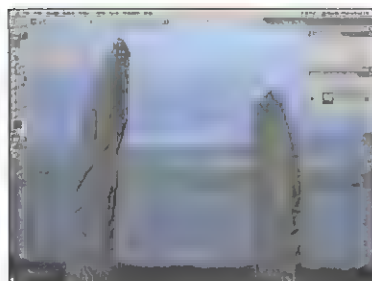
One of the advantages to working with Photoshop is the flexibility of the application. There are so many things possible that can be done to manipulate, correct, alter or retouch your images. Often times, you will only want to affect individual sections or elements of the image with the adjustments you make. The ability to isolate an area is essential to the flexibility of Photoshop itself, and that is where the concept of 'selections' comes in.

A selection, simply put, is an area that has been defined or 'selected' by the user. It is as simple as that. You specify your area and then do what you wish inside that area. One of the

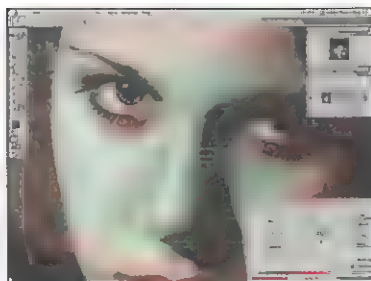
most basic ways to create selections is to use the tools provided in the main Photoshop toolbar. The selection tools are strategically placed near the top of the toolbar, and this positioning is no simple coincidence. These tools are at the top because they are some of the first tools a user will need to become acquainted with and use on a regular basis.

Selection tools

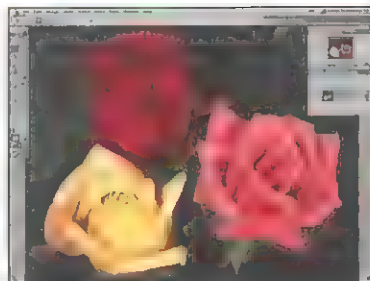
The Marquee tool is the first selection tool in the toolbar. By default, the Rectangular Marquee is visible. However, clicking and holding this tool will reveal a number of other tools nested within: an



Page 12 Explore the different marquee selection tool options available



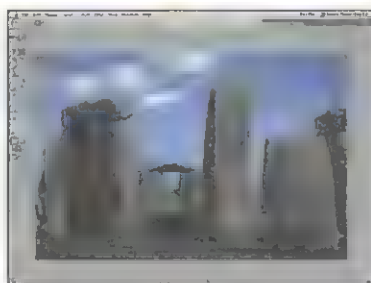
Page 14 Learn to use the different marquee tools together



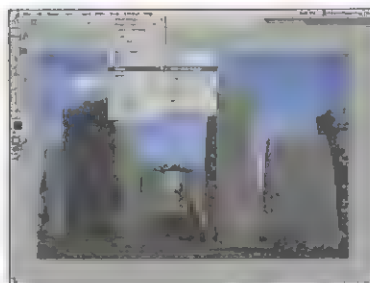
Page 19 Combine the Freehand and Polygonal Lasso tools



Page 20 Draw precise and detailed selections with the Magnetic Lasso tool



Page 21 Master the Magic Wand tool and understand the Tolerance control



Page 25 Learn how to move selections around and hide selection borders

Elliptical Marquee tool as well as Single Row or Column Marquees. Underneath the Marquee tool in the toolbar is the Lasso tool. Like the Marquee tool, there is more here than meets the eye. Clicking and holding the Lasso tool reveals a couple of variants nested within: the Polygonal Lasso and the Magnetic Lasso. To the right of the lasso tools is the Magic Wand tool. There are no further options nested within this tool in the toolbar, nor does there need to be – the Magic Wand is a powerful enough tool in itself.

At the top of the Photoshop workspace, under the main menu, is the tool options bar. Depending on

the selection tool you are using there are various options for that particular tool. Some of the selection tools have common options such as anti-aliasing or add/subtract functions. Other tools, such as the Magnetic Lasso or the Magic Wand, have a number of options which are unique to that particular selection tool.

Three card trick

Everything you need to begin working with selections in Photoshop lies within these three tools in the toolbar – the Marquee, the Lasso and the Magic Wand – and each of these tools is enhanced by their individual settings in the tool options bar.

The Marquee tools

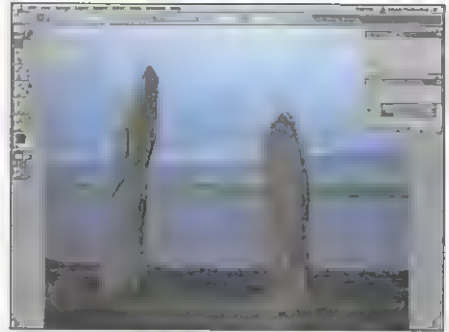
Photoshop offers four marquee tools, which allow you to perform basic selection functions



Not what it appears

When using the Single Row Marquee or the Single Column Marquee it may appear as though your selection is just a single line and not an enclosed marquee. This is not the case. It appears this way because files are often viewed at a size that doesn't reveal individual pixels. You will need to zoom in considerably so that you can make out the pixels and the selection around them.

The most basic of selections can be achieved by using the various options nested within the Marquee tool in the toolbar. Clicking and holding the Marquee tool in the toolbar displays a pop-up menu. This is where you can choose between the four basic options: Rectangular, Elliptical, Single Row, and Single Column. The most commonly used are the Rectangular and Elliptical Marquees. These tools essentially enable you to select parts of an image in the form of rectangles, squares, ellipses and circles. The



Clicking and holding the Marquee tool in the toolbar shows four basic Marquee tool options. These change as you switch between marquees.

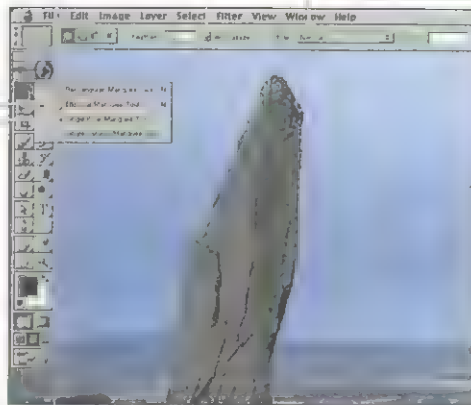
Rectangular and Elliptical Marquee tools also share a number similar options in the tool options bar.

THE VARIOUS MARQUEES

The Rectangular Marquee tool allows you to click and draw rectangular selection areas. You can constrain the area's aspect ratio, specify its size, or draw it freely.

The Elliptical Marquee tool is similar to its Rectangular counterpart. Again, you can constrain the aspect ratio, specify size, or draw freehand.

The Single Row Marquee tool enables you to select an entire row of horizontal pixels by simply clicking anywhere in the image.



Because the Rectangle, Row and Column Marquees have 90-degree edges, 'anti-aliasing' is only available when using the Elliptical Marquee tool (See page 13).

Choose from various Style functions including: Normal, Fixed Size and Fixed Aspect Ratio when using the Rectangular or Elliptical Marquee options.

The Single Column Marquee tool allows you to select a single row of vertical pixels by simply clicking anywhere in the image.

Add, Subtract and Intersect

A common set of tool options make the Marquee tools' selections more versatile

When you select any of the available marquee tools, you will notice four buttons on the left-hand side of the tool options bar. These four buttons provide powerful options that let you do a lot more with the simple Marquee tools. The first button to the left, which is enabled by default, is the New Selection button. With this selected a new selection is created whenever you draw a marquee. If a selection is active, the new selection replaces it. The next button along is the 'Add to selection' button. With this pressed

the marquees that you draw are added to the existing selection – it doesn't matter whether these areas are touching. The third button is the 'Subtract from selection' option. If you draw a marquee over an existing selection with this button pressed, your new marquee is subtracted from the original. Finally, if you press the 'Intersect with selection' button and draw a marquee over part of an existing selection, the resulting selection covers the areas where the second marquee intersects with the first, removing all outlying areas.



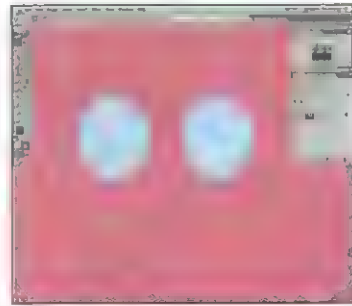
Tool options bar

The tool options bar first appeared in Photoshop 6.0. The Add, Subtract and Intersect options aren't available in previous versions. However, it is possible to hold down the [Shift] key while drawing a marquee to add it to an existing selection. You can also hold down the [Alt] key on a PC, or the [Option] key on a Mac and draw a marquee to subtract it from an existing selection.

WHAT IS ANTI-ALIASING?

Anti-aliasing is only available with the Elliptical Marquee tool

Anti-aliasing is the process of smoothing jagged edges. It is most useful when cutting, copying or pasting selections while creating a composite image. Enabling anti-aliasing in the tool options bar means the marquee will soften the edges of the selected pixels. This is done via an unseen process of graduating the transition between edge pixels and background pixels. The detail of your images within the selected area is safe, since only the edge pixels are affected. The Elliptical Marquee tool is the only marquee tool that needs an anti-alias function – the other three marquee tools are based on straight lines and sharp 90-degree corners.



The same selection with and without anti-aliasing. Note the smooth edges of the anti-aliased shape (right).

Working with marqueees

The Add, Subtract and Intersect functions give interesting variations to basic marquee selections



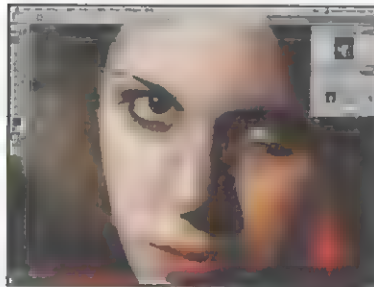
Changing marqueees

By now, you know that to access the various marquee tools, all that you have to do is click and hold down the Marquee tool in the tool options palette. However, there is a quicker way to switch from one marquee to another without going back to the toolbar each time. On the keyboard, press the [M] key to select the marquee tool, then holding down the [Shift] key, press [M]. This toggles through the various tools available.

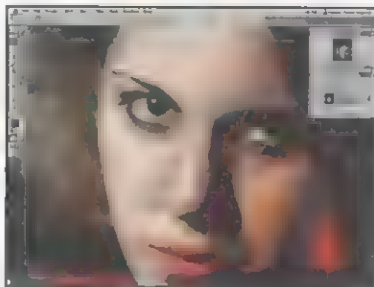


Cursor cues

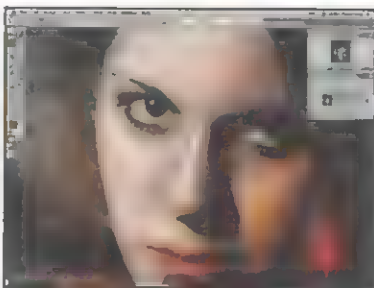
When you use the Marquee tool the cursor turns into a cross. The cursor will change depending on which button you have enabled in the tool option bar. Enabling the Add button adds a plus sign to the cursor. Enabling the Subtract button adds a minus sign, and the Intersect button adds an X. This helps you to see which tool is active without directing your attention to the tool options bar.



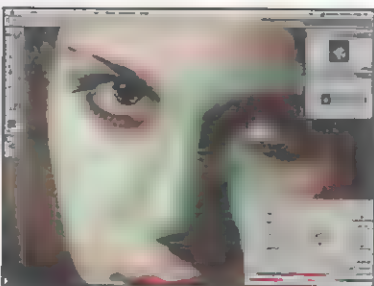
First, we selected the Rectangular Marquee tool with the New Selection function enabled. We clicked and dragged with the mouse to draw this horizontal rectangle across the girl's eyes. Next, in the tool options bar we clicked on the 'Add to selection' button and drew a vertical rectangle overlapping the previous one, creating a t-shaped selection.



Next we selected the Elliptical Marquee tool. With the 'Add to selection' function still enabled, we drew an ellipse to the left of the second rectangle. We then selected the 'Subtract from selection' button in the tool option bar and drew two ellipses over her eyes to remove them from the selection.



After selecting the Rectangular Marquee tool we clicked on the 'Intersect with selection' button in the tool options bar. We then drew a rectangular marquee across the centre of the existing selection. With this done, the only remaining selected area was that of the intersected selections. We then clicked on the 'Subtract from selection' button in the tools options bar.



Next we chose the Single Row Marquee and clicked on the selection in a number of places to remove single rows of pixels from the selection. With this new selection active, we performed a quick Hue/Saturation colour adjustment to demonstrate what can be achieved and the potential use of a custom-made selection.

Marquee styles

Enjoy greater flexibility when creating marquees, with the Style options in the tool options bar

The marquee Styles do not apply to the Single Row or Single Column marquees – those tools are designed to create a particular type of selection. A single row or column is a very specific selection based on the height or width of a single pixel, and there is no way to change the size of an actual pixel. The Style options become available when using either the Rectangular Marquee tool or the Elliptical Marquee tool. When either of these are selected, a drop-down menu appears next to the word Style in



The Height and Width fields become available when you switch the style to fixed aspect ratio or fixed size. These options rely on numeric entries.

the tool options bar, with three options available: Normal, Fixed Aspect Ratio and Fixed Size.



Another marquee

Photoshop 7.0 comes bundled with an application called ImageReady. For those of you who have used ImageReady previously, you will know that the Marquee tools work in a similar manner in ImageReady as they do in Photoshop. However, in ImageReady there is a Rounded Rectangle Marquee that is unavailable in Photoshop. It resides in the toolbar with the other marquee options.



Entering units

While using the Fixed Size Marquee style and entering units after your numbers, you don't need to know the abbreviated forms of the units. You can simply type in the words: pixels, centimetres, millimetres, inches, and Photoshop will automatically convert them to their abbreviated forms.

MARQUEE STYLE OPTIONS

- **NORMAL** is the default style and the most commonly used. Actual mouse clicking and dragging defines the size and shape of your resulting selections. What you click is what you get.
- **FIXED ASPECT RATIO** constrains the height and width of your marquees as you draw them based on what you have entered into the height and width fields. If you enter equal numbers in both fields, such as one and one, your rectangular marquees will be perfect squares, and your elliptical marquees will be perfect circles.
- **FIXED SIZE** enables you to specify the exact width and height of the selections you are creating. This style gives most precise control over your selection sizes and creates a selection with one simple click.
- **UNITS** can be altered at any point in the Fixed Size style – change the default, 'px' (pixels) by entering a different suffix like 'in', 'cm' or 'mm'.

Using marquee Style options

The Style options in the tool options bar come in handy for creating precise selections



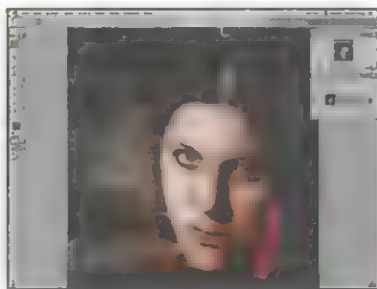
Circles and squares

There are ways to constrain the size ratios of your rectangular and elliptical marquees without using the option in the Style drop-down menu. When the normal button is pressed in the tool options bar, and there are no other selections active, click and drag while holding down the [Shift] key. Doing this with the Rectangular Marquee results in square selections. Doing it while using the Elliptical Marquee gives circular selections.

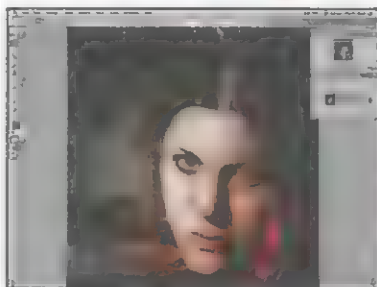


The [Alt] or [Option] key

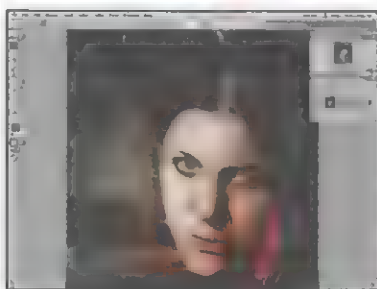
When you have both the marquee Style and the button in the tool options bar set to normal, this key can play an important role. If you have no other selections active, hold down the [Alt] key ([Option] on a Mac) while you draw a rectangular or elliptical marquee. The selection will then be created from the centre out, rather than in the direction you are dragging.



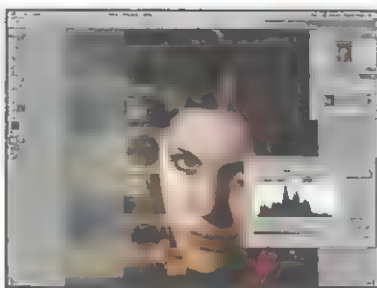
By choosing the Rectangular Marquee tool from the toolbar and leaving the Style set to Normal, we were able to have total control over our selection by mouse control. First we clicked and dragged to draw a large vertical rectangular marquee down the left side of the image. Then we clicked the 'Add to selection' button in the tool options bar.



Next we selected Fixed Aspect Ratio from the Style drop-down menu in the tool options bar. In the Height and Width fields we entered a value of one. When using the Rectangular Marquee tool, specifying a ratio like this means your resulting selections will be perfect squares. We drew a few squares overlapping the existing selection.



Leaving the Style options set to Fixed Aspect Ratio we switched the marquee in the toolbar to the Elliptical Marquee, then clicked on the 'Subtract from selection' button in the tool options bar. Next, we drew a series of ellipses over the top of the existing selection. Because we had the Style set to Fixed Aspect Ratio, the ellipses produced were perfect circles.



Back in the toolbar, we switched from Elliptical back to Rectangular Marquee. We enabled 'Add to selection' and in the Style drop-down menu changed the option to Fixed Size. We changed the values in the Height and Width fields to 20mm for each, then drew a series of squares by just clicking on the image. This tonal adjustment is one of many things that your custom selection can be used for.

The Lasso tool

Create irregular selections of any shape or size with the most flexible selection tool – the Lasso

The Lasso tool is probably the most intuitive of all of the selection tools in the toolbar. Unlike the Rectangular Marquee or the Elliptical Marquee tools, there is no primary shape that the Lasso tool must follow as a starting point for the shape of a selection. Simply put, the Lasso tool is a freehand tool. All you need to do is click and drag to define the shape of your selection. Like the Marquee tool, the Lasso tool has three variations to offer. They are within the Lasso tool pop-up menu in the tool bar, and like the

Marquee tool, clicking and holding the Lasso button in the toolbar will allow you to access these alternative tools. The first tool is the Lasso, which enables you to draw freehand selections; the second is the Polygonal Lasso tool which creates polygonal selections; and the third is the Magnetic Lasso tool which enables you to draw selections that follow the edges of objects automatically. Just like the Marquee tool options, all the Lasso tools provide the Add, Subtract, Isolate and Anti-alias functions.



Quick Lasso access

There is an easier way to access the three variants of the Lasso tool than reopening the Lasso pop-up in the toolbar. When you have a Lasso tool selected you can quickly access the other two Lasso functions by holding down the [Alt] key (or [Option] key for Mac users) and clicking on the Lasso tool button in the toolbar. Each time you click, it toggles to the next Lasso tool option.

THE POLYGONAL LASSO TOOL

This Lasso tool offers the precision of straight line segments

When you want to create an irregular selection made up of straight line segments, no other tool is more useful than the Polygonal Lasso, and it's so easy to use. Simply click once where you want to create your starting point, then position the pointer over the area where you want the first segment to end and the next to begin, and click again. Continue on in this manner until you have created the selection shape that you want to use. In order to close the shape, you'll need to position the pointer over the starting point and click. If you don't want to return to the starting point, just double-click and the shape will be closed automatically.



Create quick selections with the Polygonal Lasso tool, by drawing a series of straight segments.

The Magnetic Lasso tool

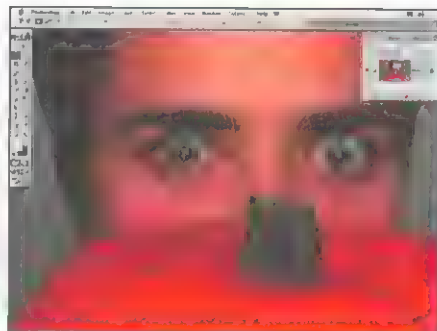
This intelligent Lasso can detect edges of objects against high-contrast backgrounds



Stylus pressure

For those of you using pressure sensitive graphics tablets, you can enable the Pen Pressure function in the tool options for the Magnetic Lasso tool. The pressure sensitivity affects the width setting. The harder you press using the pressure-sensitive stylus, the more you cause the edge width to decrease.

The Magnetic Lasso tool creates a selection border that snaps to the edges of areas in the image that have been defined by the user. This tool, properly employed, can provide a very quick way to isolate objects sitting against definable backgrounds. The Magnetic Lasso uses sensitivity and edge detection. It looks for areas of greatest contrast and draws the selection border in those areas, creating fastening points to anchor the border in place. Click in the image to create the first fastening point, then move the lasso over the edge you



For quick object selections the Magnetic Lasso is great. You may run into trouble when objects are set against similar-coloured backgrounds.

want to outline. The line segment automatically snaps to the strongest edge, adding more fastening points.



Changing the width

When you are creating a selection border using the Magnetic Lasso tool and you wish to change the edge width without having to drop your selection, you can use the keyboard to help you out. Clicking the [key while drawing a selection allows you to decrease the width by one pixel, and subsequently clicking the] key allows you to increase the width by one pixel.

MAGNETIC LASSO DETAILS

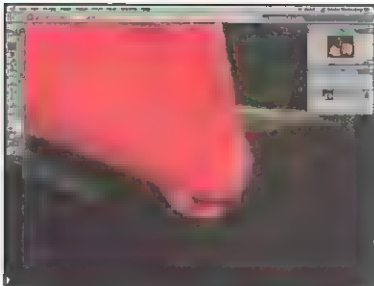
- WIDTH** is the field in the tool options bar that specifies how far from the central pointer the Lasso tool will be able to detect edges. Width is measured in pixels, so you can enter a pixel value in this field.
- SENSITIVITY** is controlled in the Edge Contrast field in the tool options bar. You can enter a value from one to 100. Higher values detect edges in areas of high contrast only, whereas lower values work better for areas where contrast is less pronounced.
- FASTENING** points anchor a selection border in place. The fastening points are automatically created by the Magnetic Lasso as you draw your selection border. The rate at which the Lasso adds fastening points is determined by the value you enter in the frequency field. You can enter a value of up to 100, the higher the value, the faster the selection is anchored in place.

Using the Lasso tools

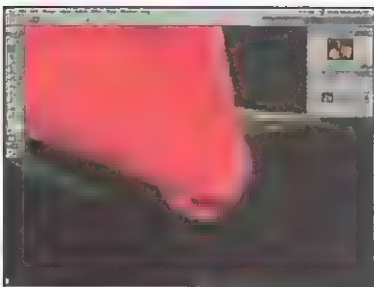
You can create some great selections using the Lasso and Polygonal Lasso tools together



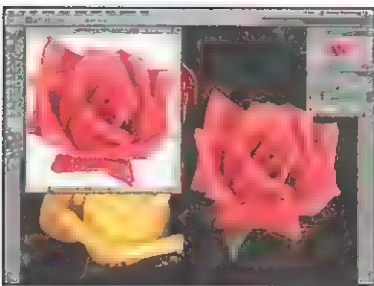
1 The Polygonal Lasso tool is a great tool to use, producing very accurate selections in a matter of seconds. What you need to master is the ability to see where it is most useful. Looking at the pink rose in the right of this image, we see that the rose could be selected easily using a complex polygon. So, using the Polygonal Lasso we drew a quick selection around the pink rose.



2 We then cut and paste the rose into a new document. You will notice that we have stayed deliberately within the rose and not strayed onto the background because we don't want any green to carry forward into the new document. Also we noticed that a pure polygonal-based selection was going to be too sharp, so we switched to the Freehand Lasso tool in the toolbar.



3 In the tool options bar we clicked on the 'Add to selection' button. Then, using the Lasso tool we drew around areas of the flower that needed to be a little more round, adding them to existing selection. Here we concentrated on areas where the petals should have been a little more round than the Polygonal Lasso tool had defined them.



4 Next, in addition to adding rounded areas to the polygon selection, we subtracted some areas so that it didn't look too perfect. In the tool options bar we clicked the 'Subtract from selection' button and drew around the little areas that we wanted to remove. With the selection process finished, we copied and pasted it into a new document.



Toggle between tools

When you want to switch from one Lasso tool to another, there is an easier way to do it than going back to the toolbar each time and accessing the tool via the Lasso tool pop-up menu. Simply hold down the [Shift] key and click on the [L] key to toggle, in order, through the various Lasso tools.



Combine tools

Do not limit yourself to only one Lasso tool per selection. Combine the three various Lasso tools to create just the right selection in the most efficient way. And, for that matter, don't rule out combining the other marquee tools like rectangles and ellipses, with your Lasso selections.

Using the Magnetic Lasso

Watch contentedly as the Magnetic Lasso tool does most of the work for you



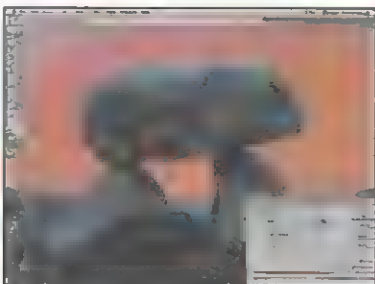
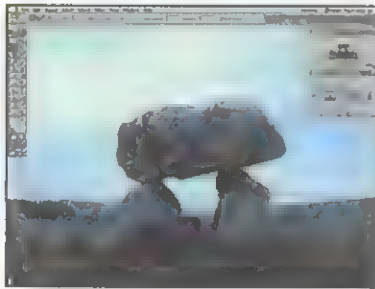
Width detection

In version 7.0 of Photoshop onwards, you can enter a width value from one to 256 pixels in the Width field of the Magnetic Lasso tool. However, in Photoshop 6.0 and in Photoshop Elements you can only enter a width value of up to 40 pixels in the same Width field.



Magnetic Lasso cursor

While the Magnetic Lasso is selected, but not in use, it is possible to change the cursor. Enabling the [Caps lock] button on the keyboard will change the Lasso cursor to a circle that represents the width value in the tool options bar.



This image of the Devil's Den is ideal to put the Magnetic Lasso tool to the test. It has areas of high contrast between the monument and ground and the sky. Our aim was to create a selection that surrounds the sky only, leaving out the monument and the ground. So, first things first, we selected the Magnetic Lasso tool from the toolbar.



In the tool options bar we entered a width of 40 pixels so we didn't have to follow the area of contrast too closely. We entered a value of 50% for the edge contrast because there weren't many subtle areas of contrast for our selection border. We entered 75 in the frequency field to anchor the selection quickly. We clicked at the far left on the horizon to set the first point.



We slowly dragged the Magnetic Lasso across the horizon and the top of the monument to divide the sky from the rest, with the Magnetic Lasso tool laying down the anchor points. When we reached the right side we went along the right of the image, to the top, across to the left, and back down to join up with the start of the selection, clicking to add manual fastening points where necessary.



Once the selection was closed it became active. Next we clicked on the 'Add to selection' button in the tool options bar, and used the Magnetic Lasso tool with the same settings to select that little bit of sky in the centre of the monument. Once the sky was selected, we used the selected area to perform a drastic Hue/Saturation adjustment.

Introducing the Magic Wand

This very handy tool is capable of selecting coloured areas with a single click of the mouse

Automating the process of creating selections has been something that users have hankered after since digital imaging was in its infancy. Long before the days of the Magnetic Lasso all that was available was the Magic Wand tool. The Magic Wand tool still has a place in the toolbar because of its all-around usefulness. Simply put, the Magic Wand tool automatically allows you to select a consistently coloured area of your image with the click of a mouse, saving you the time and effort it would take to trace

its outline. Like many of the other selection marquees and lasso tools, there are some familiar options available in the tool options bar once you have selected the Magic Wand tool. As with any selection tool that does not create a 90-degree angle in its resulting selection, there is an Anti-aliasing option. And, like all other marquee and lasso tools, you can use the Add, Subtract and Intersect options with the Magic Wand tool. But the true power of the Magic Wand tool lies in the options that the other tools don't have.



Precise selections

Sometimes you will need to make precise selections or perhaps selections of very small areas of your image using the Magic Wand tool. In some instances the Magic Wand cursor itself can get in the way of the area you're viewing. In cases like this, simply press the [Caps lock] button on the keyboard to change the cursor to a simple crosshair.

THE TOLERANCE SETTING

At the heart of the Magic Wand tool is the Tolerance setting

Clicking on a specific area of your image with the Magic Wand tool generates a selection that surrounds pixels of a similar colour. Exactly what the tool perceives as similar enough to include is determined by the number you enter into the Tolerance field in the tool options bar. You can enter a number from zero to 255 in the Tolerance field. Entering a low number like one or two and then clicking with the Magic Wand tool will result in very few and very small areas within the image being included within your selection. Using a high number like 200 will include almost every pixel. Experiment with different settings to see what works best.



The sky selection has a Tolerance of 32, and excludes the stones and ground. Increase this to select cloudy areas too.

More wand options

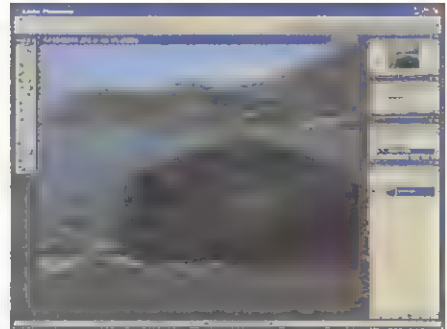
The Contiguous and Use All Layers options allow even greater flexibility for Magic Wand selections



Selecting the Wand

Select the Magic Wand from the toolbar by pressing the [W] key on the keyboard. This handy shortcut comes in useful when you are working with interface elements and floating palettes hidden, (by pressing the [Tab] key).

Enabling the Contiguous option in the tool options bar allows you to limit your Magic Wand selections to only adjacent areas using the same colours. Simply put, if it doesn't touch, then it won't be selected. If you have Contiguous disabled and you click on a colour in the image, then *all* similar colours within the image will be included in the selection, regardless of whether they touch or not. Use All Layers is a powerful feature that allows you to select colours by using the data from all the visible layers



Here the sky has been selected using the Magic Wand. If Contiguous was not enabled, Photoshop may also select similar colours in the sea.

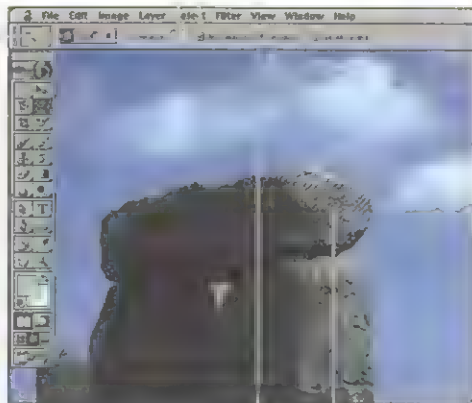
within your file. If Use All Layers is disabled you can only select colours that reside on the active layer.

FAMILIAR AND UNFAMILIAR OPTIONS

The Tolerance setting allows you to enter a value that determines how 'similar' colours must be to be included in your selection.

Just like the Marquee and the Lasso tools, the Magic Wand tool provides the same ability to Add, Subtract and Intersect when creating or editing selections.

Determine whether or not areas of similar colour must be adjacent to be included within your selection by enabling or disabling the Contiguous option.



Enabling anti-aliasing defines a nice smooth edge for your Magic Wand selections. So if you disable this function, beware of the jagged edges.

Enabling Use All Layers allows you to access colour data from all of the visible layers within your image file.

We clicked on this selected area of grey while the Contiguous option was enabled. If disabled, all similar colours in the image would have been selected.

Understanding Tolerance

Experiment with the Wand's Tolerance setting to understand what those numbers really mean

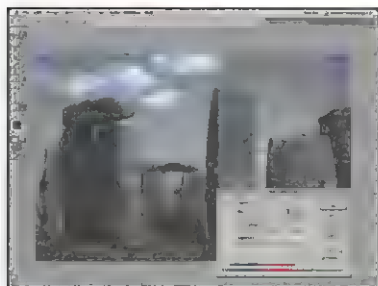


1 Our aim with this image was to change the colour of the sky. Using the Magic Wand tool is ideal, because it saves us the work involved in drawing selections around the clouds and the stones. First we enabled the Anti-alias function in the tool options bar and left the Tolerance set to its default setting of 32. Then we clicked on a blue area of the sky.

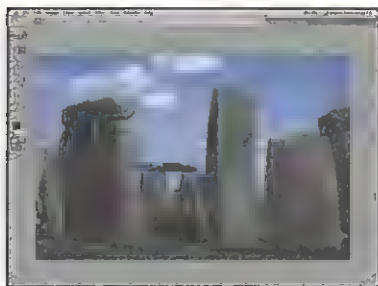


Taking note

As with anything that takes fiddling to get it just right, making a note of what works and what doesn't is often a good idea, so that when you are presented with a similar problem in the future you already know the solution. When you happen upon a Tolerance setting that is just right for a particular selection in an image, use the Notes tool to add a virtual 'sticky' note to your image.



2 We performed a Hue/Saturation adjustment and we could see that our selection didn't contain enough of the areas of sky that we wanted to affect. So, we clicked the Cancel button in the Hue/Saturation dialog box to ensure this adjustment wasn't applied. Next we chose Edit > Undo Magic Wand from the menu to undo the selection.



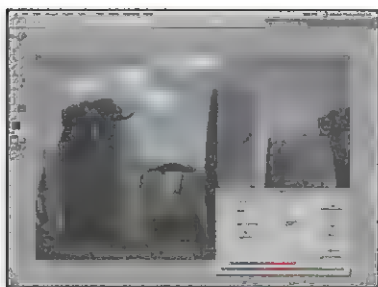
3 It was evident when we performed the Hue/Saturation adjustment that our Tolerance setting of 32 wasn't anywhere near high enough. There were far too many areas of the sky and cloud edges that were completely unaffected. A higher Tolerance setting was called for, so we entered a value of 105 in the field and clicked on the sky again.



Bitmap limitation

The Magic Wand tool is a powerful and versatile tool.

It is invaluable for generating quick and accurate selections but, should you want to work in Bitmap mode, you can forget about the Magic Wand, as it does not support that mode.



4 We performed a Hue/Saturation adjustment again using the new selection – you can see the results were much better. Some areas of the stones are also included in the selection because of the high Tolerance setting. There are sometimes trade-offs in getting the selections you want from the Magic Wand, but these areas can be manually deselected later.

Two more important options

The Tolerance option is powerful, but don't forget Contiguous and Use All Layers



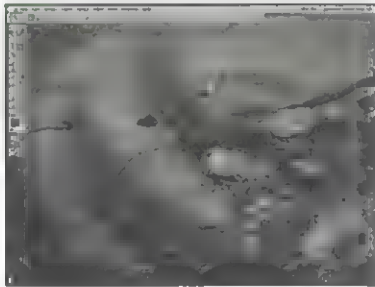
Selecting transparency

The Magic Wand tool can select any colour or any range of colour depending on the Tolerance setting in the tool options bar. What you may not know is that you can select an area of transparency on a layer just like you would a colour – simply disable the Use All Layers function and click on a transparent area of the active layer to select it.

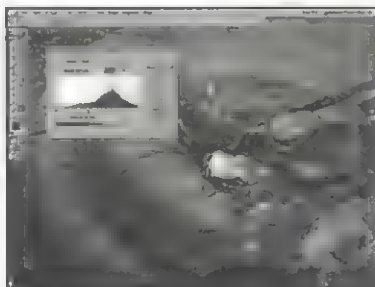


Adding/Subtracting

When you have selected an area with the Magic Wand tool there is a quicker way to add and subtract from that selection than using the buttons in the tool options bar. Hold down the [Shift] key and click to add to the selection, or hold down the [Alt] key (PC) or [Option] key (Mac), and click to subtract from a selection.



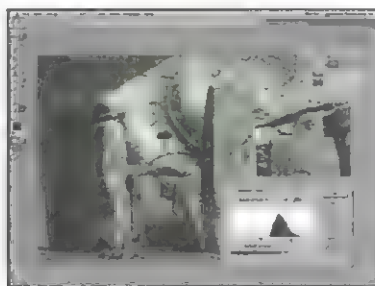
This image of crumbling stonework is a prime example of when you may need to enable the Magic Wand's Contiguous function in the tool options bar. The aim here was to select and adjust a single shard of stone using the Magic Wand tool. First we set the Tolerance to 50 and enabled Anti-alias. We clicked on the light grey of the stone shard and all similar colours were selected.



This time we enabled Contiguous in the tool options bar and clicked on the light grey of the stone shard – this is the result we were looking for. This is because when Contiguous is enabled in the tool options bar, only adjacent, or touching, areas of the same colour are selected. Once happy with the selection, we performed a tonal adjustment.



Next we added some content on a second layer. We selected all the light grey in the image and use that selection to constrain a tonal adjustment. We left the Tolerance setting alone, but disabled Contiguous because we wanted to select all of the similar coloured pixels in the entire image. However, clicking on one of the grey areas only creates a selection from the image on the active layer.



So, we enabled the Use All layers function in the tool options bar and gave it another try. We clicked on the same light grey area in the image, but this time the resulting selection was based on the colour data of all of the visible layers. With that selection active, we created a Levels Adjustment Layer and performed an overall tonal adjustment.

Moving selections

Less impressive functions, such as moving selections, can be the ones you use most often

It is possible to move a selection border around an image after you have created it, no matter which selection tool you used to create it. In fact, you can pick up a selection border and move it around to any place in the image you like.

This process of moving a selection is really quite simple. Start by creating a selection with any of the various selection tools. Then click the New Selection button on the tool options bar and position the cursor inside the selection border on your image. Once you've done this,

notice that the cursor changes to a hollow arrow with a small rectangular marquee to its right. This change in the cursor is an indication that you can now move the selection. Click and drag within the selection border, moving it to enclose any section of the image that you choose.

Note that it is also possible to drag the selection partly beyond the edge of the canvas – however, when you drag the outline back onto the canvas, the original selection border will remain intact.



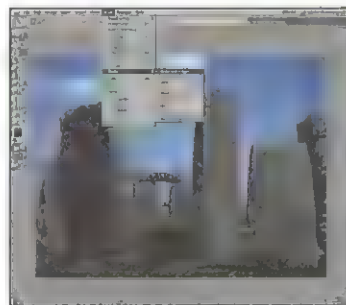
Moving across images

Besides moving selections around an image, you can also move a selection from one image window to another. Just open up two images at once and arrange them side-by-side. Draw a selection and then, with the New Selection option enabled, click within the selection border and drag it out of the current window and into the second.

HIDING SELECTIONS

Selections are essential but you may not want to look at them

Sometimes, looking at the 'marching ants' of the selection borders can really start to get to you. When you spend hours staring at your images in Photoshop you will generally want to only view your selection borders while you are creating them. When its time to use your selection borders, you'll usually want to hide the selections from view. To do this, you need to have a selection active. Then from the menu choose View > Show > Selection Edges. This disables their visibility. To make them visible again, select the same menu option again. Notice that when your selections are visible there is a tick next to Selection Edges in the menu.



With the Magic Wand tool, selections can be rather complex and their borders can be distracting.

FAMILIARISING YOURSELF WITH THE SELECT MENU

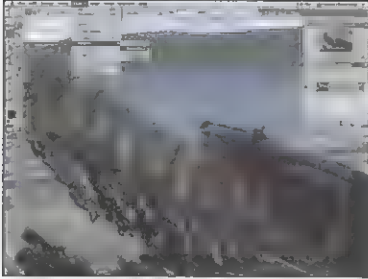
The Select menu, at the top of your screen, provides several options for working with and saving your existing selections, as well as some powerful tools for generating new ones

Now you know how to create selections using the Marquee, Lasso, and Magic Wand tools, it's time to look towards the top of the screen at the Select menu – an invaluable resource when it comes to working with selections. The functions provided within this menu range from basic to highly advanced. When you click on the Select menu, it opens to reveal a range of options and functions. Notice that the contents of the menu are split into different sections, grouping together features that perform a similar function. The first group of four functions enables you to create extremely basic selections. In this

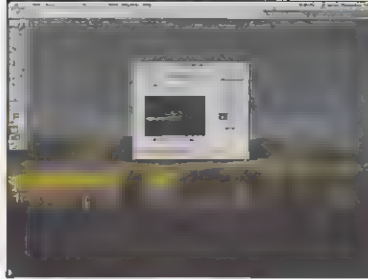
group there are also basic functions for working with existing selections, such as deselecting, reselecting or inverting. Photoshop Elements users will be unable to use some of the advanced features like Color Range, loading and saving selections, and Transform Selections.

Color Range

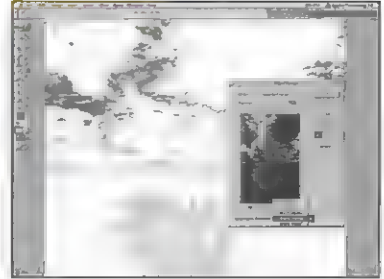
The second group contains only one feature. It stands alone because there is nothing else like it. The Color Range option allows you to create selection borders using a very advanced method of specifying ranges of colour and is a stunningly flexible tool.



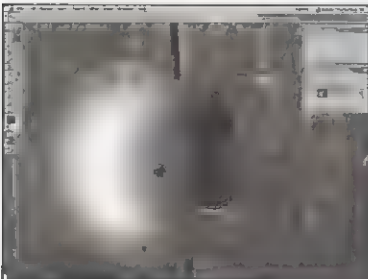
Page 28 Gain an understanding of the Select menu and its functions



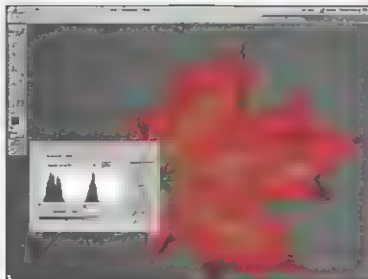
Page 31 Discover the powerful functions of the Color Range tool



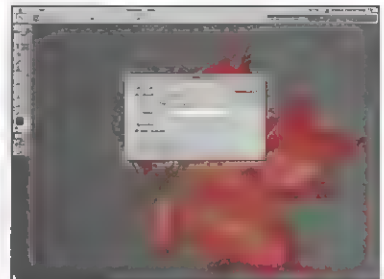
Page 32 Delve deeper into the Color Range's preview and selection options



Page 34 Soften up your selection borders using the Feather options



Page 36 Try some of the great selection editing tools in the Modify sub-menu



Page 37 Learn how to save existing selections and load them to use later on

Feather and Modify

Below Color Range is a group of two functions. The Feather function allows you to create selection borders with very smooth edges. As you work with it you'll see that it is very different from basic anti-aliasing. Modify provides you with a sub-menu containing four functions for altering your selection borders. In the Modify sub-menu you can smooth your selection, create a border around your selection border, and expand or contract the size of your selection.

Incorporating other tools

Some of the options in the Select menu rely on data that is specified to

other tools. The Grow and Similar functions borrow their range settings from the Tolerance setting of the Magic Wand tool. Also, the Transform Selection option uses essentially the same transformation functions available in the Edit menu.

Saving and loading selections

Down at the bottom of the Select menu are two options that provide a glimpse into the vast realm of alpha channels, which we'll discuss in depth in the following chapter. In summary, tools that allow you to save your hard-earned selections for future use are arguably the most useful items you can have.

Basic Select menu items

At the top of the Select menu are a group of four basic, but very useful, options



The invert shortcut

The keyboard shortcut to invert a selection is [Control]+[Shift]+[I] (on a PC), or [Command]+[Shift]+[I] (Mac). Always make sure that you are using the [Shift] key. If you forget to use the [Shift] key, and you just use [Control]+[I] you will see some odd results inside your selection border. [Control]+[I] is the keyboard shortcut to invert the pixels in the entire image, converting it to a negative

Don't dismiss the first four Select menu items as too basic for your needs – we reckon you'll use at least two of them almost every time you work on an image file. The first is the Select > All option. This makes a selection that encloses the entire canvas area on the active layer. Next is Select > Deselect. This deactivates any active selection. You can also deactivate an active selection by clicking outside the selection border using the Lasso, Polygonal Lasso, or Marquee tool. If you deselect a selection by accident,



Only the options that apply are available in the menu. Since there is no active selection here, the majority of the features are inaccessible.

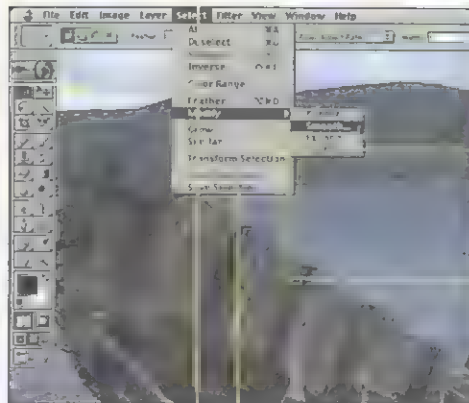
choose Select > Reselect. To select the inverse area of your current selection choose Select > Inverse.

THE SELECT MENU REVEALED

The first section of the Select menu offers four very basic options. However basic they seem, you'll find yourself using them often.

The Color Range selection tool is an unparalleled tool when it comes to generating controlled selections based on ranges of colour.

Feather allows you to soften the edges of your selection borders by creating a transition between the selection and the surrounding pixels.



You can smooth, increase or decrease the size of your selections, and generate a new selection based on the existing selection border using the Modify sub-menu.

Employ the various Transformation functions (also found under the Edit menu) to drastically reshape the border of your current selection.

Save a selection that you have taken some time to create so that you can load it again for use later on.

Color Range

One of the Select menu's most powerful features, Color Range creates amazing selections

Accessing Color Range opens a dialog box with a detailed interface for creating selections. Using the Color Range command enables you to create selections based on colours or sub-sets of colours within your image. If you have a selection active when you select Color Range from the Select menu, your Color Range selections are limited to the confines of that selection. If you do not have a selection active, then the resulting selections will be created throughout the entire image. Once the Color Range dialog box is open, the



We used the eyedropper to select the water in the image. With the Selection display option we can see the area to be selected in the preview

cursor turns into an Eyedropper tool. This samples a colour from the image, seen by choosing the Selection option.



Preview toggling

If you hold down the [Control] key (PC), or the [Command] key (Mac) while the Color Range window is open it will switch your preview for as long as you hold the key down. For instance, if you set the display to Selection and press the [Control] key, the display option will switch temporarily to Image until the key is released.

COLOR RANGE OPTIONS

Choose between many Select options such as selected colours, highlights, shadows, midtones, ranges of colour like reds, yellows, greens or even out-of-gamut colours.

Fuzziness controls the range of colour you have selected, by either increasing or decreasing the amount, using the Fuzziness slider or a numeric entry.

The preview window shows the entire image, even parts that aren't on screen. You can choose to display the actual image or the selection as you are building it.



You can save your selections for use later on, or you can load already saved selections and continue to alter their selected ranges of colour.

Use the Eyedropper tool to select an initial colour from the image window. Further Eyedroppers enable you to add or subtract colours from your existing selections.

The selection preview allows you to preview the selection you have created in the actual image window. There are four different preview options.

Fuzziness and previews

Adjust the range of colours with the Fuzziness controls, then preview the results on a selection



Invisible borders

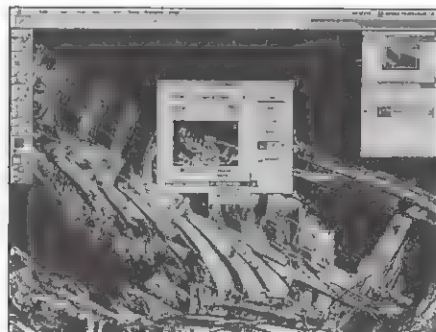
If you see an alert message that says 'No pixels are more than 50% selected' you will not be able to see the border of the selection that you have just created. But you will still have selected a colour range. Just try making a drastic colour or tonal adjustment and the selected area will be revealed when a particular part of your image changes.



Invert

In the Color Range window, underneath the Eyedropper tool there is a checkbox marked 'Invert'. When you enable the Invert function, if you have your display set to Selection, you will see the image displayed in the preview become inverted. This is not just a display function, the Invert function inverts the actual selection. If you have enabled a selection preview in the image window this will be inverted as well.

The Fuzziness control selects which pixels are added or subtracted from your selection. Increasing the amount of fuzziness broadens the range of colour in your selection, resulting in more areas of the image being more selected. Decreasing the amount of fuzziness will lessen the range of colour, resulting in less areas of the image being included in your selected area. The Fuzziness setting in the Color Range tool can be compared to the Tolerance setting for the Magic Wand tool. The higher the value,



By using the Selection Preview pull-down menu options, you can select a preview method then preview your selection in the image window.

the less fussy the tool is when making selections, the greater the range and vice-versa.

METHODS OF PREVIEWING THE SELECTION

GREYSCALE will display the selection in tones of grey. The 100% white areas are completely selected, whereas the 100% black areas are not part of the selection at all. The values in between are in various states of inclusion in the selection, based on their greyscale value.

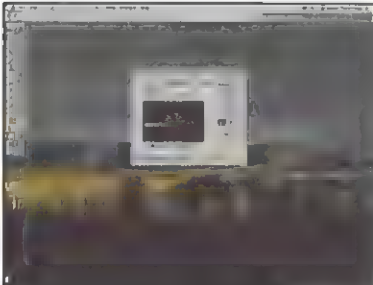
BLACK MATTE basically takes all of the deselected areas in the image and fills them with black. Only the selected areas of the image are displayed in colour.

WHITE MATTE, like Black Matte, takes all of the deselected areas in the image and fills them with white. Again, only the selected areas of the image are displayed in colour.

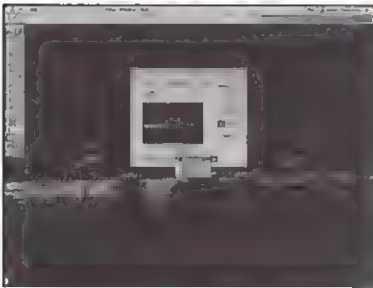
QUICK MASK displays the selection using the current Quick Mask settings. By default, Quick Mask covers the masked areas with 50% red and displays the selected areas in full colour. See chapter 4 for more details.

Using Color Range

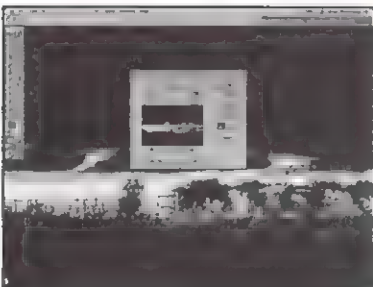
Use the Color Range tool to generate and edit a selection based on a particular colour range



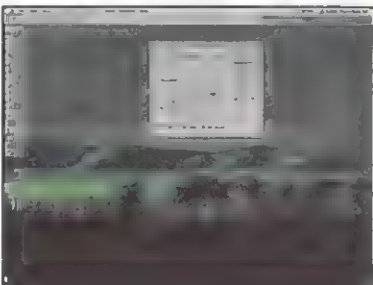
Here, we want to generate a selection that includes all of the green and yellow areas of the image, so that we can alter the colour. From the menu we chose **Select > Color Range**. In the Color Range window we chose **Sampled Colors** from the Select menu, set the Fuzziness slider to 50, and set the display method to Selection. We clicked on a yellow area of the image with the Eyedropper.



The preview window gives a good indication of the ranges of colour that we've selected, however, we really wanted to see more of the detail in the selection to make sure we were including all of the image elements we wanted to select. We chose **greyscale** from the Selection Preview menu to preview the selection in the image window.



Looking at the preview window it is clear that the range of colour we have specified is too small – we are only selecting the highlighted areas of the part of the image that we want to select. To increase the range of colour we moved the Fuzziness slider to increase the value to 198.



Increasing the fuzziness added a lot more of the darker yellow and the green areas of the image to the selection. We set the Selection Preview option back to **None** just to check the selection against the image. Once we were satisfied we clicked **OK** to generate the selection. We used the resulting selection to constrain the drastic colour adjustment you see here. Spooky hey?



Selection Preview

When selection edges are crucial, the small preview window doesn't provide you with enough detail.

Enabling the Selection Preview lets you preview the selection in the image window. And with the Color Range window open you can still zoom in or out, or pan around the image in the image window.



Resetting

The Color Range tool is so much fun that you will probably, sooner or later, find yourself overdoing it. If the resulting selection strays from what you originally wanted, don't be hasty and click on the Cancel button. Instead hold down the [Alt] key (on a PC), or [Option] key (on a Mac), and watch the Cancel button change to a Reset button. Just click Reset to reset the Color Range tool.

Going deeper

You can use Color Range to select a range of colour inside an existing selection



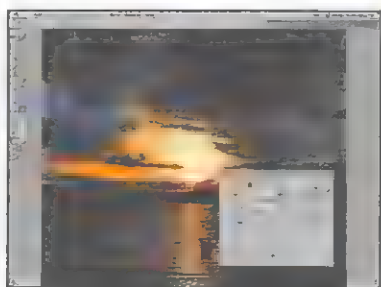
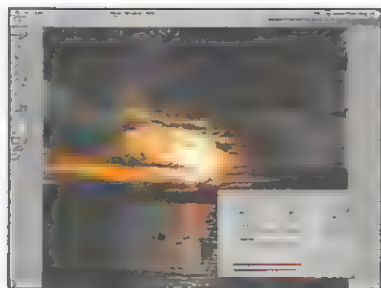
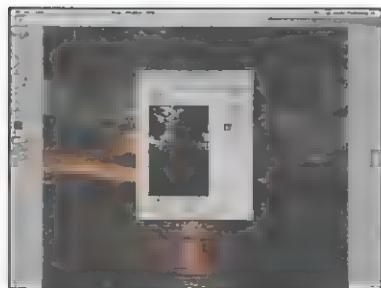
Out Of Gamut

In Color Range, if you choose the Out Of Gamut option from the Select menu, a range is automatically specified using all of the 'out of gamut' colours – those colours that exist in images in RGB or Lab colour modes. An 'out of gamut' colour is a colour that is impossible to reproduce using CMYK process printing. This function is a nice way of isolating those colours so that they can be adjusted and made printable.



Easy Eyedropper

You can access the Eyedropper tools quickly while in the Color Range window by using the following keyboard shortcuts: hold down [Shift] to access the plus Eyedropper tool temporarily, or hold down the [Alt] key (on a PC), or the [Option] key (on a Mac) to activate the minus Eyedropper tool.



With this sunset image open, we chose Color Range from the Select menu. Leaving the Select option set to Sampled Colors, we set the Fuzziness to 55 and used the Eyedropper tool to select a blue area of the sky in the left of the image. Then we set the preview setting to Selection to see the selected range.

We then selected the 'Add To sample' (plus) Eyedropper tool and clicked on a golden area of the sky in the image to add it to our specified range of colour. We chose greyscale from the Selection Preview to have a good look at our selected range and then clicked OK. With our new selection active we performed a Hue/Saturation adjustment.

With the current selection active, we chose Select > Color Range from the menu once again. Now that there is an existing selection, the Color Range tool will only operate within that selection. We sampled a blue area from the sky and increased the fuzziness to 100. We then selected White Matte from the Selection Preview drop-down.

Next we increased the Fuzziness to 130 to broaden the range of selected colour within our specified range to include more of the areas within the existing selection. When we were satisfied that we had selected all of the blue or borderline blues within the selection we clicked OK. Inside the new selection we performed a colour adjustment to enhance the blue.

Feathering selections

Using the Feather function you can create a variety of soft edges for your selection borders

While the Anti-alias function is indispensable when working with selections, it doesn't really allow you much control over how soft your resulting selection borders will be. We're not saying that the Anti-aliasing feature isn't a good one – simply that, if it's true soft edges you're after when compositing images, then you will need to direct your attention to the Feather function, found under the Select menu. The Feather function allows you build a transitional boundary between your selection

edge and the areas that lie outside it. In Photoshop, and also in Photoshop Elements, you can feather a selection by specifying a pixel value in the dialog box that appears when you choose Select > Feather from the Select menu. You can specify a value of up to 250 pixels – the higher the number the greater the transition area. Alternatively, it is possible to create very subtle transitions by entering fractional pixel values with values as low as 0.2. In contrast to the high values, these transitions are so subtle you'll barely notice them.



Invisible selections

There are times when you will create a selection border that is rather small and then apply a high feather value to it. In instances like this you may encounter a warning that tells you that none of the pixels in your selection are more than 50% selected. This means that although you have a workable selection, you will not be able to see it.

FEATHER ON THE FLY

Use the tool options bar to feather as you go

The Feather option adds a soft transition to an existing selection. But when using the selection tools in the toolbar, you can apply a feather amount to the selection borders as you create them. When you choose the Marquee, Lasso, Polygonal Lasso, or Magnetic Lasso you'll see that in the tool options bar that there is a field where you can specify a feather value. Enter a value and then begin creating your selection. When your selection is defined and the 'marching ants' appear, it will automatically have the specified Feather amount applied to it. To see the results of your feathered selection, cut, copy, move or fill the selected area.



As shown here, the feathering effects become apparent as soon as we move the selected area within the image.

Feathering revealed

Here are some of the results you can achieve with the various Feather options



Blurred edges

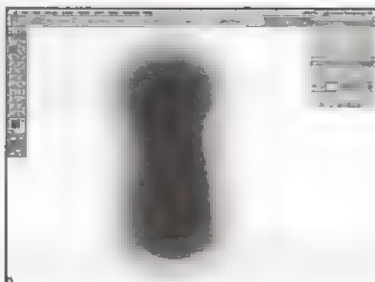
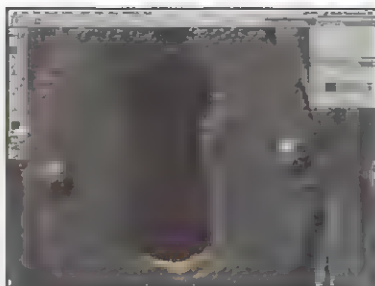
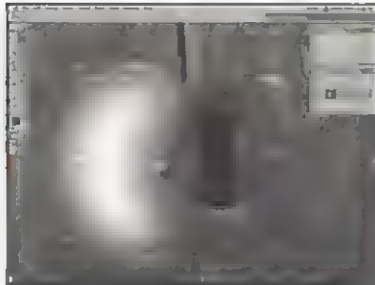
The principle that feathering is based upon is the creation of a soft edge by blurring the boundary of a selection and its surrounding pixels.

Remember, when you have drawn selection borders that are sharp or have a lot of detail, that depending upon the degree of feathering you use, some of the edge detail will be lost.



Hiding selections

When working with selections, the visible borders (or 'marching ants') can become irritating. To hide the borders you don't always have to return to the View menu. Instead use the keyboard shortcut [Control]+[H] (on a PC), or [Command]+[H] (on a Mac). The same shortcut will make them reappear too.



We used the Elliptical Marquee tool to draw a rough selection border around the lock area of the image. Then we chose **Select > Feather** from the menu and added a value of 100 pixels to define a soft transition area. The results of the softened edge are revealed when we use the Move tool to move the selected area.

By using the Zoom tool to zoom in closer we can see the transition in greater detail. A feathered transition of 100 pixels is rather soft and really allows us to see that the transitions are unique in the way that they are not constrained to either the inside or the outside of the selection border like many things in Photoshop. The transition is applied to both sides of the visible border.

Here we have selected the Magnetic Lasso tool and drawn the selection around the keyhole, but before we did so we entered a value into the Feather field in the tool options bar. Now whenever we draw a selection with this tool it will automatically feather the selection using the amount we have previously specified.

Since the feathered transition exists on both sides of the visible selection border, it is possible to invert the selection and manipulate the outer area instead. Here we have chosen **Select > Inverse** from the menu and then filled the inverted selection with solid white so that you can see the existing transition still intact.

The Modify functions

The Modify sub-menu provides four powerful options for even more flexibility and control

Below the Feather function in the Select menu is the Modify sub-menu. The Modify sub-menu has four different options to assist with increasing or decreasing the amount of pixels within a selection as well as adjusting the areas of colour-based selections. It is possible to create a selection that will frame an existing selection. By choosing Select > Modify > Border you can enter a numerical value between one and 200. This will create a new selection that is basically a frame around your previous selected area. The Smooth

option does more than you would expect from its simple title – it cleans up any stray pixels left over when you have made a colour-based selection. Just enter a pixel radius between 1 and 100. The stray pixels can be inside or outside the selection border. The final two options available in the sub-menu, Expand and Contract, allow you to increase or decrease an existing selection by a specified number of pixels. Again, just choose Expand or Contract from the Select menu and enter a pixel value between 1 and 100.



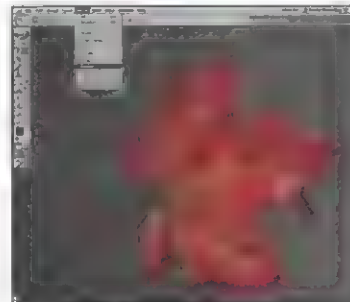
Expand limitations

When you expand a selection shape like a square or a circle it won't be perfect once you've increased the size. The square selections will have rounded corners that appear more like 45 degree angles. The circular selections will tend toward rounded polygon shapes and look less like perfect circles. And if a portion of your selection runs along the edge of the canvas it will be unaffected.

GROW AND SIMILAR

Include areas of similar colour using the Grow and Similar options

You can increase existing selections to include additional ranges of colour. The Grow and Similar options borrow their methods and settings from the Magic Wand tool. Both tools take a look at the range of colour that exists in your current selection. Then, when you choose either option, more pixels in the image are added to the selection, based on the range you specify via a Tolerance setting. Grow and Similar use the Tolerance setting that you specify in the tool options bar for the Magic Wand tool. The Grow option adds all *adjacent* pixels that fall within the range, whereas the Similar option adds pixels throughout the entire image



Choosing Select > Similar finds all the similar ranges of colour that exist in our selection and adds them to it.

Using the Select menu

The Select menu has some powerful functions for adjusting the size and shape of selections



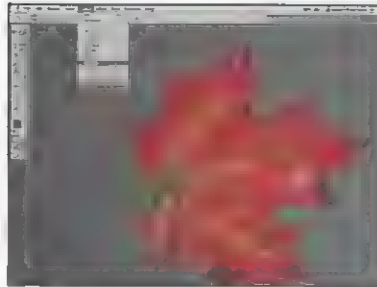
The Smooth radius

The radius setting for the Smooth option specifies the size of the area, outwards in all directions, from selected pixels, that the smooth option will operate within. If the majority of the pixels within the specified range are selected, then any unselected pixels will be added to the existing selection. If the majority of the pixels in the range aren't selected, then any selected pixels will be removed from the selection.

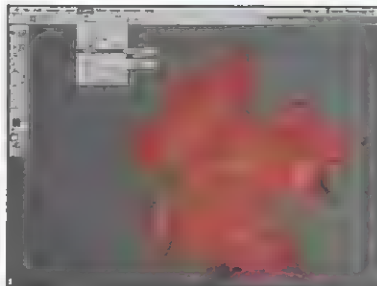


Grow/Similar

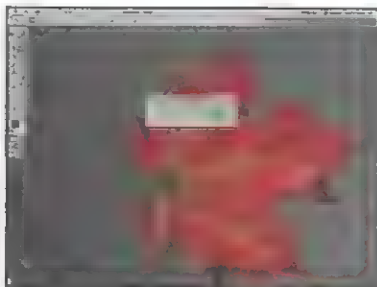
It is possible to increase your selections in increments while using the Grow or Similar functions. All you need to do is select the Grow or Similar function more than once. These functions are not available while working in Bitmap mode.



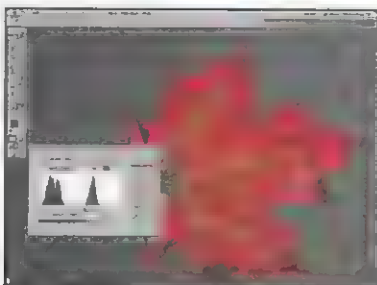
Here we have made a selection by clicking on one of the red areas of the leaf using the Magic Wand tool. Contiguous was enabled, so only adjacent pixels were selected. Then we increased the Tolerance setting from 10 to 20 to increase the range of selected colour and chose Select > Similar from the menu.



Using the Similar option increased our selected area based on the ranges of colour we had in the existing selection. The Similar option finds all areas of the colour range (not just adjacent pixels) and adds them to the selection. With this selection active, we then chose Select > Modify > Smooth from the menu.



We entered a Sample Radius value of 10 and then clicked OK. This helped to clean up any of the stray pixels inside and outside of the selection and give it a smoother appearance. Then, to reduce the actual size of our selection we chose Select > Modify > Contract from the menu. We entered a value of 10 to contract the selection by 10 pixels.



To create a frame around the existing selection we chose Select > Modify > Border from the main menu and entered a value of 15 pixels. We then hid the selection by using the keyboard shortcut [Control]+[H] (on a PC), or [Command]+[H] (on a Mac), and performed an adjustment using the Levels tool. This creates an edge treatment that makes the leaf look 'electrified'.

Saving selections

Saving your selections can save you literally hours and hours of work in the long run

Often enough, getting just the right selection can be a tricky and difficult process – one that you'd rather not repeat if you could avoid it. There will be times when you combine the Magnetic Lasso tool with the Magic Wand and then perhaps add a little to the selection using the Freehand Lasso tool. Then to refine things a little further you may head for Color Range, and then perhaps Expand or Contract the selection a little before you finish off with a skillful use of the Grow function. You can sit back and be

proud as you make your tonal adjustments within your selection that was so painstakingly created. When you finish using the selection, you deselect it and move on. Then, a little while later you want to just tweak that selected area one more time. The problem is that you deselected that wonderful selection and now you have to go through all that work again, hoping that this selection will be as good as the last one. Well you won't have to, if you learn how to load and save functions under the Select menu.



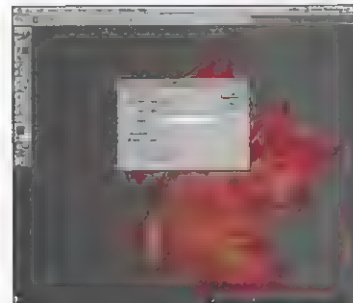
Transformations

It is possible to transform a selection border by choosing **Select > Transform Selection**. A bounding box encompasses the entire selection. The box has handles that will allow you to resize, rotate, skew, distort and scale your selection border. We will discuss transformations in more detail in chapter 8.

LOADING AND SAVING SELECTIONS

Get familiar with these options – they will save you a lot of time

When you have created a selection area, it's a good idea to save it for future use. With your selection active, choose the **Save Selection** function from the **Select** menu. A dialog box appears, prompting you to name your selection and specify a destination document and channel. When you select the **New Channel** function your selection is saved as an alpha channel and added to the **Channels** palette. To load a saved selection you simply need to choose **Load Selection** from the **Select** menu. In the resulting dialog box, choose the document source and its alpha channel that you wish to load as your selection. Click **OK** and the channel is loaded as a selection.



Choosing *Save Selection* from the *Select* menu allows you to save your selection as an alpha channel.

LEARNING TO WORK WITH ALPHA CHANNELS

If you want to master the art of creating and editing selections, you need to work with alpha channels and understand their importance in the whole process

All images in Photoshop are made up of channels – black and white (greyscale) images that store information. The mode of your image will determine the number of colour channels that are created automatically within your new image. For example, an image created in CMYK mode will have five default channels: cyan, magenta, yellow, black and a composite channel that is used when you edit the image.

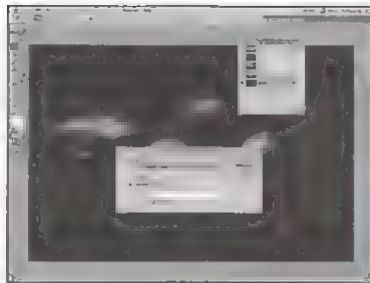
Alpha channels explained

An alpha channel is a channel that you create in addition to your existing channels. The purpose of an alpha channel is to have a place to

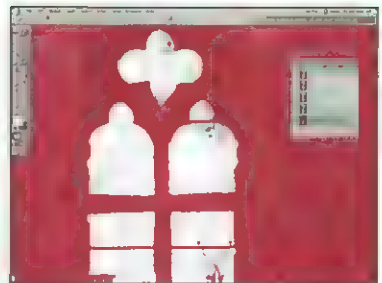
store your ‘masks’ which are used to generate selections, so that you can easily isolate specific areas of your image. An alpha channel, which is essentially an eight-bit greyscale image, can be made visible and edited using the image-editing tools, which gives you quite a lot to work with. The fact that a selection can be generated from a greyscale image lends a certain control and flexibility to your selections that simply isn’t available when working with other selection tools like the Marquee tools, the Lasso tools, or even the Magic Wand. An alpha channel can be created from an existing selection, created from scratch or



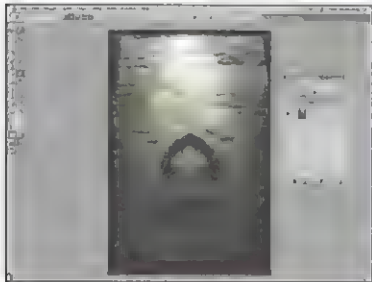
Page 44 Use tonal adjustment tools to define selections in your alpha channels



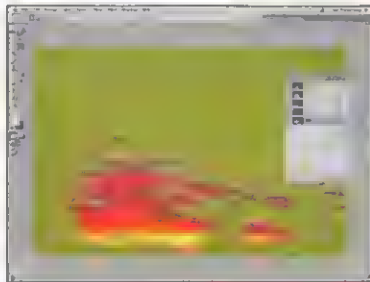
Page 47 Create selection areas using an empty channel and Brush tools



Page 48 View your composite channel while editing individual alpha channels



Page 50 Combining filters with alpha channels creates misty lighting effects



Page 51 Change the display options for channels to view subtle transitions



Page 51 Create advanced selections by duplicating and editing colour channels

created as an empty channel. Any editing that you do to that channel determines what sort of selection it will generate. The channels are stored within your image file, the same way that the default colour channels are, provided that you save your file in a specific file format that supports alpha channels like TIFF or Photoshop PSD.

Using channels together

Alpha channels can be used as a single entity to store and create selections, or in conjunction with each other to create selections that are the product of more than one channel. This enables you to keep

certain masks isolated from each other for more editing flexibility.

In Photoshop, the place where you create and manage your alpha channels is the Channels palette. This is also the area where you can monitor your channels, and all of the changes you make to them while editing. Each channel is represented in this palette by a thumbnail: one each for colour channels, the composite channel, and alpha channels. The Channels palette is the place where you can organise your channels, duplicate or delete them, turn their visibility off and on, select which channels to edit, and generate selections from your channels.

Thinking in greyscale

It is important to understand the nature of alpha channels to get the most out of them



No alphas in Elements

If you are using Photoshop Elements you'll notice there are no tools that allow you to work with alpha channels, including the Channels palette. Certain channel-based Select menu items like Color Range and Save/Load Selection are absent too. Channels are a core function of Photoshop's that the pros can't do without, so if you can't either, it's time to upgrade from Elements.

Alpha channels are probably one of the most important selection features in Photoshop. They provide a selection range that is essential for smooth image compositing. Often thought of as an advanced feature, the idea of working with channels is more than a little daunting for less experienced users. The secret to learning how alpha channels work lies in understanding how a greyscale image translates into a selection. You need to be able to look at a channel and realise, at a glance, what areas

are going to create selections and which areas aren't. It isn't difficult when you simply think of it this way: white areas are selected, black areas are not selected. When you generate a selection from a channel, Photoshop looks at the greyscale image and creates a selection from it. It sees the areas of white as 100% selected and areas of black as completely deselected. All greyscale values in between fall into place accordingly, so an area of 60% grey will cause the pixels in that region to be 60% selected, and so on.

CHANNEL OPTIONS

How selections are made depends on how channel options are set

The default setting for Photoshop's channel options is to show selected areas as white and deselected or masked areas as black. It is possible to reverse these default settings by changing the settings in Channel Options. To access the channel options while you are creating a new channel, hold down the [Alt] key (on a PC), or [Option] key (on a Mac), and click on the New Channel button at the bottom of the Channels palette. A dialog box appears with two different settings – one for colour, and one for black areas – for the channel. The default setting is Masked Areas, but if you want to reverse this then choose Selected Areas

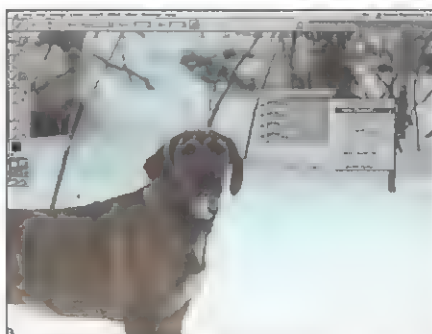


Change a channel's options by choosing it in the channels palette and selecting Channel Options.

Creating channels

You can create any sort of selection you like when you start with an empty alpha channel

Creating a new alpha channel is like giving yourself a blank canvas – how you fill it is entirely up to you. You have many Photoshop paint and editing tools – anything you can use in a greyscale image is available to use while editing your alpha channels: paint brushes, gradients, certain filters, tonal adjustment tools and so on. To create your selection mask within the channel you first need to create a new alpha channel to work on. There are two ways to do this. You can either click on the ‘Create new



One way to create a new alpha channel is to locate the Channels palette menu and choose New Channel from the list

channel’ button in the Channels palette, or can select New Channel from the Channels palette menu.



File sizes

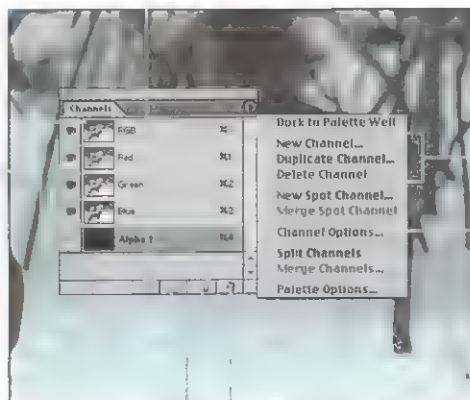
Like layers, channels can add a substantial amount of megabytes to your file sizes. The more channels you add the bigger the file gets. You may want to discard channels that you no longer need before saving your files.

THE CHANNELS PALETTE

Use this button to load your alpha channel as a selection. If you are using the default settings, the white regions will be the selected areas.

Each channel is shown in the Channels palette by an icon and a name. Colour channels and the composite channel can't be renamed, but alpha channels can be.

These two buttons allow you to create new channels. The one on the left creates a new channel from an existing selection. The other one creates an empty channel.



Create new channels and manage existing ones. Like many Photoshop functions some of these can also be executed using the palette buttons.

Alter the functions of black and white information in individual channels by adjusting the options, change the display colour and rename your channels.

Like all trash can icons in various applications and operating systems, this option lets you throw things away. In this case it helps you delete alpha channels.

Channels from selections

Photoshop offers you the ability to create a channel from an existing selection



Loading selections

Rather than spending the time going up to the Select menu or the Channels palette menu every time you want to load a channel as a selection, wouldn't you like to be using a shortcut? Worry not, we've got one! All you need to do is hold down the [Control] key (on a PC), or [Command] key (on a Mac) and click on your desired alpha channel in the Channels palette to generate a selection from it.

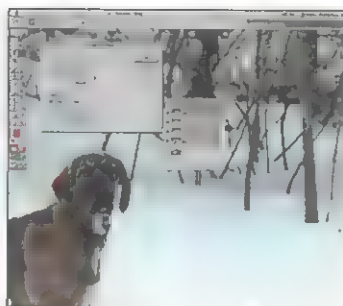
After what can sometimes be a long and loving process, you will often want to preserve the selection you have carefully created, for use at a later stage. The last thing you want to do is drop a complex selection and then spend hours having to recreating it, only to find it's not as good as your original one. This ability to store your selections is one of the most essential alpha channel functions. We touched on this briefly in the last chapter when we talked about the Save selection option under the Select menu. When

you save a selection, Photoshop creates an alpha channel for that selection in the Channels palette – all of the areas within the selection border are made white and all of those outside the border are black. Any areas of soft transitions are translated into appropriate greyscale values within the channel. There are two ways of creating a channel from a selection. You can either click on the 'Save channel as selection' button in the Channels palette or choose Select > Save Selection from the main menu.

LOADING SELECTIONS

How do we access the selections we've stored in alpha channels?

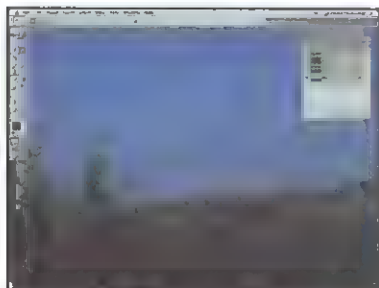
Accessing the selections that you have saved within your alpha channels is simple enough. The most complicated thing is deciding which way you'd like to do it, because like many things in Photoshop, there is more than one way to generate a selection from an alpha channel. One way is to choose Select > Load Selection from the menu. Then, in the resulting dialog box, specify the channel you'd like to use from the Channel pull-down menu and click OK. Another way is to use the Channels palette. Simply select the alpha channel you want to use in the palette then click on the 'Load channel as selection' button at the bottom of the palette.



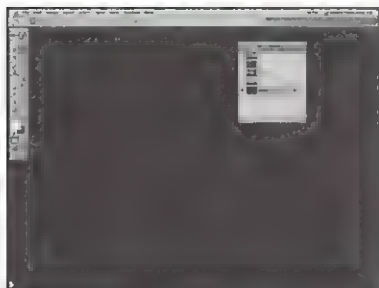
The Load Selection function under the Select menu generates selections from any alpha channels in the image

Creating new channels

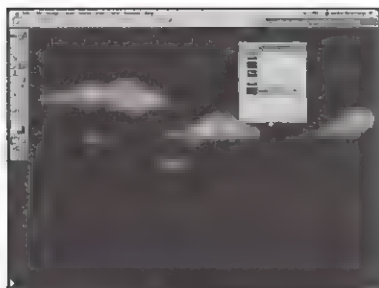
Alpha channels are often used to store existing selections, but they can also create new ones



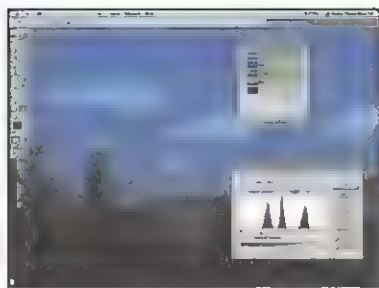
1 The sky in this image is a little empty-looking. We have decided to add some cloud shapes into it. But instead of painting directly on the image we're going to create a very soft, new selection using an alpha channel and try doing some tonal adjustments within the selected area that we generate from the channel.



2 The first thing we needed to do was to create an alpha channel to work within. We selected New Channel from the Channels palette menu. In the resulting dialog box we named the channel 'clouds' and left the colour indication set to Masked Areas. The channel automatically becomes selected and the visibility of the other channels is automatically turned off.



3 Next we selected the Brush tool from the toolbar and set the foreground colour to white. We used a variety of different sized soft brush tips with varying opacities to paint some white clouds onto the brand new alpha channel. When we were finished we clicked the 'Load channel as selection' button.



4 After generating the selection, we clicked on the RGB composite channel to make all the colour channels visible and selected. This automatically deselects and disables the visibility of the alpha channel. We hid the selection border from view by typing [Control]+[H] (on a PC), or [Command]+[H] (on a Mac). We then used Image > Adjustment > Levels to lighten the tone of the selected areas.



File formats

In order to preserve the alpha channels that you have created in your image it is important to save the image in a format that supports alpha channels. Files that support alpha channels are Adobe Photoshop, TIFF, PICT, Raw formats and PDF.



Check your settings

Since we now know that it is possible to define the areas of colour within your alpha channels as Selected Areas or Masked Areas in the Channel Options, it should be noted that these settings do not revert back to their defaults when the file is closed and reopened. It never hurts to double-check your settings in the channel options before you begin editing an alpha channel. Double-click on an individual channel in the Channels palette to quickly access its channel options dialog.

Using existing selections

Selections can be stored as alpha channels, edited like greyscale images and reloaded as selections



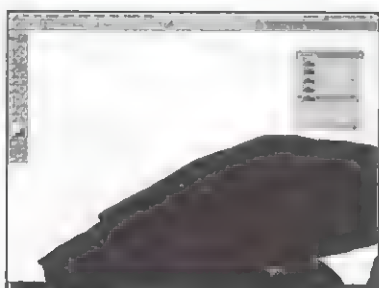
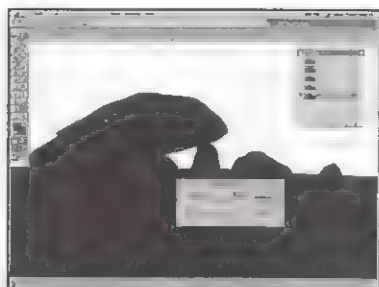
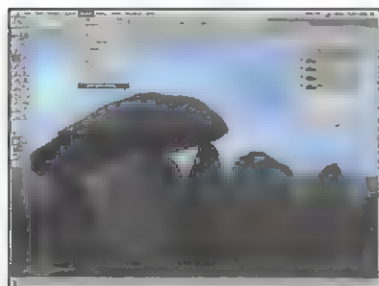
Combine techniques

Sometimes, you may find that in order to get the selections you require that one specific selection tool or technique just won't do the job. In instances like these it is important to remember that you can combine any of the tools and techniques available. Being willing to experiment a try combinations of different things is essential is you plan to evolve as a Photoshop user.



Channel limitation

Photoshop has a knack for making itself seem limitless, and in many cases it is. When working with channels there is one limit to bear in mind. Although you won't encounter it often, the limitation when working with channels is that you can have no more than 24 channels in a single image.



1 This image was proving difficult. We wanted to isolate the sky, but some of the blues in the sky were too similar to the grey areas in the stones. Even using Color Range, we didn't manage to do it properly. So we settled for the best selection we could create using the Color Range tool. Then we chose Save Selection from the Select menu.

2 We deselected our current selection by choosing Select > Deselect from the menu. Then we selected the new alpha channel in the Channels palette. The first thing we needed to do was a contrast adjustment to increase the highlights to clean up the sky and darken the ground. We selected Image > Adjustments > Brightness/Contrast from the menu and increased the contrast.

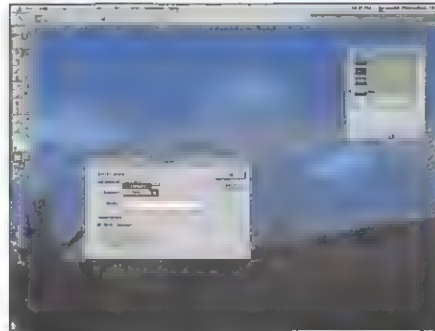
3 The contrast adjustment worked well but it still wasn't perfect. There were areas of colour remaining in the sky, so we selected the Brush tool and specified a foreground colour of white. Using a hard brush tip and an opacity setting of 100 we carefully painted white over all of the areas in the sky where colour remained.

4 Next we used a smaller brush and a foreground colour of black to paint colour into any remaining white areas that weren't part of the sky. When we were finished we clicked on the RGB composite channel to select it and chose Select > Load Selection from the menu to select and load our channel as a selection. Then we made a Hue/Saturation adjustment to the sky within the selection.

Adding and subtracting

Another use of selections is to add or subtract areas from your existing channels

When you already have an alpha channel in your image and you choose **Select > Save Selection** from the menu to save another selection, your existing alpha channel (or channels) will be available in the Channels pull-down menu. When you select an existing channel from the pull-down menu instead of the **New** option, you'll notice something different about the options available in the Operations section. The **New Channel** option is replaced by a **Replace Channel** option and the next three options, previously unavailable,



*Select a destination other than **New** from the Channel menu, and the Operations options change, as you are selecting an existing channel.*

are now available. These let you use the add/subtract/intersect functions on your existing alpha channels.



Saving channels across images

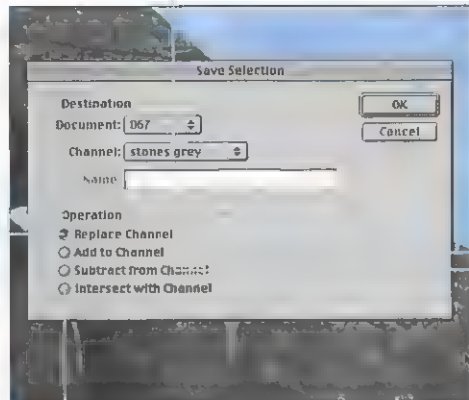
It is possible to save a selection as an alpha channel to another open image. Look at the Document pull-down area of the Destination section in the Save Selection dialog box. In the pull-down you will see any images that are open that have the exact same pixel dimensions. Simply select a different image to save your channel to that file.

DESTINATION AND OPERATIONS OPTIONS

Use this pop-up to create a new alpha channel or affect existing channels with your selection by choosing one here.

*The Operations section changes when you select an existing channel from the Channel pull-down menu. The **New channel** option is gone and the others are now available.*

*The **Replace channel** operation uses your current selection as the basis for a new alpha channel, which overwrites the existing channel you have selected.*



*The **Add to Channel** operation will add the current selection to the selected areas that are stored within the existing channel that you have selected.*

*The **Subtract from Channel** operation will remove any stored selections from the existing channel that lie within the current selection border.*

*The **Intersect** function will only retain selections in the existing channel where they are intersected by the current selection.*

Viewing Channels

There are flexible viewing options for previewing alpha and colour channels in your image



Changing the display

When you preview an alpha channel against a composite channel, it is to check the accuracy of your masking and selection areas. By default, the transparent overlay of alpha channels is set to 50% red. But there are some images where this is not an ideal way to preview them. For example, an image with a red background, is better seen with a blue or green display.

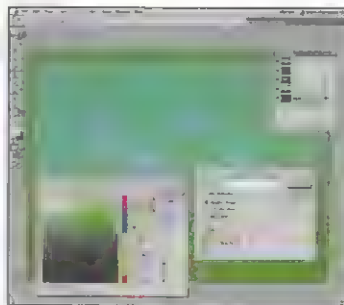
There will be times, quite frequently, when you will be working within an alpha channel to create or edit the basis for a selection and you will want to see how it will affect the image, before you actually generate a selection from it. This can be done by making use of the Channels palette. The Channels palette allows you to view any combination of existing channels in your image. When you are working within your alpha channel, it is possible to see the alpha channel and the composite

channel, or any other channel, together on the screen at the same time. When you have the alpha channel selected in the Channels palette, to preview it against the colour channels in the image simply click in the 'eye' column next to the channel that you want to be visible. Then you will see the two channels visible together. When the channel is visible an eye icon will appear in the column. You can hide a channel by clicking on this eye icon, the eye icon will disappear and the channel will become invisible.

CHANNEL DISPLAY OPTIONS

You can choose how your channels are displayed

Depending on the mode you're using, individual colour channels can be viewed in their colours. This is only possible in RGB, CMYK, or Lab mode. To view them in colour, select **Edit > Preferences > Display & Cursors** from the menu. Enable the option 'Colour Channels in Colour' and click OK. Even if your colour channels are displayed in greyscale, if you have more than one colour channel active, they are displayed in colour. If you are displaying an alpha channel and a colour channel, the alpha channel is shown as a transparent colour overlay. By default the display is set to 50% red. You can change this in the Channel Options by varying settings in the Colour section.



Select a channel, then **Channel Options** from the palette menu, to change the display colour with the colour picker.

Editing Channels

Don't assume working with alpha channels is limiting – you can edit them in several ways

By now you know that an alpha channel is essentially an eight-bit greyscale image that stores a selection inside your Photoshop file. You also know that you can create a new, empty channel, or a channel based on an existing selection. And finally, you are aware that since the channel is a greyscale image, it is possible to use paint and image editing tools to edit the channel. Excellent. The options presented before you are staggering – the greatest problem is that users assume that because they are

working within a channel that they have to stick to employing the most basic of Photoshop functions – not so. Even though an alpha channel stores a selection, you can still use selection tools within the channel itself. Help yourself to advanced selection tools like the Magic Wand and Magnetic Lasso. Create complex selected areas within the channel and get creative with how you edit these regions, employ filters and tonal adjustments. Most importantly, don't assume limitations that just aren't there.



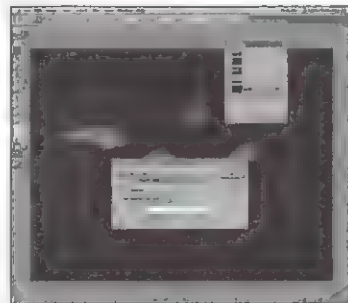
Duplicating and Deleting

If you want to duplicate or delete a channel and don't feel like dragging it onto an icon at the bottom of the Channels palette or using the palette menu, there is an alternative method. If you hold down the [Control] key (on a Mac) and click on the alpha channel, or right-click (on a PC) on the alpha channel, a pop-up menu appears providing you with the Duplicate and Delete options.

MANAGING CHANNELS

The Channels palette provides a number of management options

The Channels palette has several channel management options, such as the ability to rearrange, rename, duplicate and delete your channels. Rearranging the order of channels is simple – click on the channel icon you want to move and drag it up or down within the Channels palette. Release the mouse when you see a line appear in the desired position. Rename a channel by double-clicking on its name and entering a new name. Delete a channel by dragging it onto the trash can or selecting it and clicking the trash can button. Duplicate a channel by selecting and choosing Duplicate Channel from the palette menu or drag it onto the 'Create new channel' button.



Using the palette menu to duplicate channels allows you to invert or rename it, or specify a different destination file.

Creative alpha channel methods

Going beyond the basics enables you to create imaginative effects with alpha channels



Computer Arts

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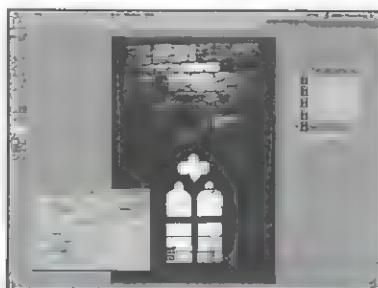


Toggling visibility

When editing your alpha channels, you'll sometimes want to see how your actions are affecting the image. In these cases it's a good idea to turn the composite channel visibility on. However, when you are cleaning up areas of subtle transition or minor details it can be advantageous to disable the visibility of the composite channel so that you can see all details within the channel itself clearly.



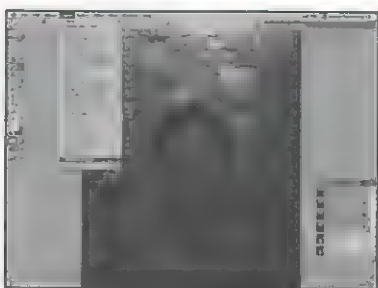
The view from this castle window is less than impressive. We're going to remove the current view and replace it with a view of the sea. The first thing we need to do is isolate the inside of the window. We selected Color Range from the Select menu and sampled the colour inside the window to give us a rough selection and clicked OK.



We clicked on the 'Save selection as a channel' button in the Channels palette and deselected the selection [Control]+[D] (on a PC), [Command]+[D] (on a Mac), and selected the new channel in the Channels palette. To remove the selected areas from the wall we used the Polygonal Lasso tool to draw a rough selection around them and filled them with black by choosing Edit > Fill from the menu.

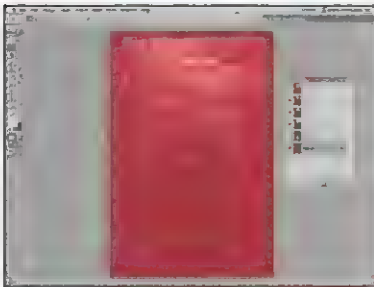


We deselected the lasso selection and enabled the visibility of the RGB composite channel by clicking on the 'eye' column to the left of the channel icon. Previewing the channels together was important to our accuracy as we painted over areas within the window, using white to remove the details from the channel.

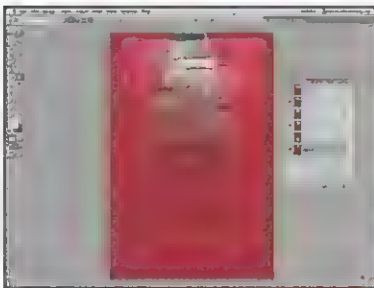


To create a selection from our channel we clicked the 'Load channel as selection' icon and selected the RGB channel. We disabled the visibility of the alpha channel, then in a separate open image we selected and copied a section of the sea. We then used Edit > Paste Into to paste the water image into our selection area and deselected it. We then flattened the image via Layer > Flatten Image.

Using alpha channels to create and edit our selections, we added a single visible light source



5 The first step towards creating the light beam was to create a new alpha channel by clicking the 'Create new channel' button at the bottom of the Channels palette. We enabled the visibility of the composite channel because we wanted to be able to see where to place it. We used the Polygonal Lasso tool to draw the initial shape.



6 Next, we selected the Gradient tool from the toolbar (it's nested with the Paint Bucket tool), we specified a Radial Gradient in the tool options bar and chose the 'Foreground to transparent' option from the tool option bar. We specified a foreground colour of white and used the Gradient tool to draw a gradient from the top down within the selection.



7 We disabled the visibility of the composite channel to see the alpha channel more clearly. The gradient looked good but the selection edges were too hard and needed softening. So we deselected the current selection so that any adjustments would affect the entire channel, and chose Filter > Blur > Gaussian Blur from the menu. We specified a range of 85 pixels and clicked OK.



8 Then we generated a selection from the channel by holding down the [Control] key (PC) or the [Command] key (Mac) and clicking on the channel icon in the Channels palette. Next, we selected the composite channel and disabled the visibility of the alpha channel. We used the Image > Adjustments > Levels > tool to perform a tonal adjustment, brightening the selected area.



Colour channel selections

Although colour channels can't be moved around in the Channels palette and aren't as flexible as alpha channels, you can create some interesting selections using the data in the individual colour channels. Select a colour channel in the Channels palette and generate a selection from it. Then save the resulting selection as an alpha channel and edit it as a normal alpha channel.



Showing/hiding multiple channels

There is an easy way to show or hide multiple channels, rather than clicking on each channel's eye column, one at a time. Simply click on a channel and then drag up or down in the eye column to enable or disable the visibility of more than one channel at a time.



Creative techniques continued

» Using filters and unusual selection techniques, you can get a lot from just two alpha channels



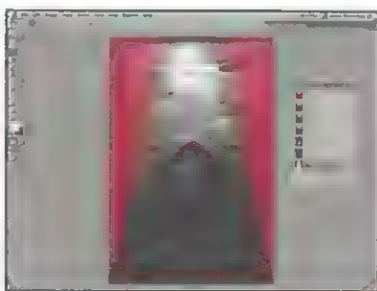
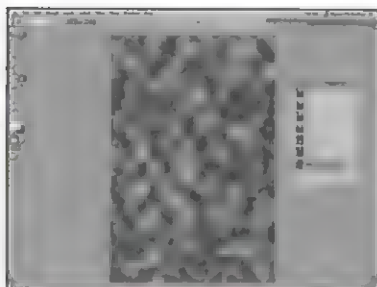
Adding to selections

The whole process of adding a selection stored within a channel to your current active selection can feel rather cumbersome – going through the **Select > Load Selection** options. But there is a quicker way. If you click on a channel icon while holding down **[Control]+[Shift]** (on a PC), **[Command]+[Shift]** (on a Mac), the stored selection within that channel will then be added to your current selection.



Subtracting from selections

Again, like adding to a selection, subtracting can also feel like a cumbersome process. Going up the **Select** menu, Choosing **Load selection**, dealing with the pull-down menu and **Operation** settings and so on. Worry not, there is a shortcut for this too. Basically, the protocol is exactly the same as adding, but to subtract, instead of using the **[Shift]** key, substitute the **[Alt]** key (on a PC), or **[Option]** key (on a Mac).



Now we have a beam of light, we want to create a more dramatic effect from the single light source by adding a feeling of 'mist' to the image. So first, we clicked on the 'Create new channel' button. Then we set the foreground and background colours to their black and white defaults by typing **[D]** on the keyboard. With the new channel selected we chose **Filter > Render > Clouds** from the menu.

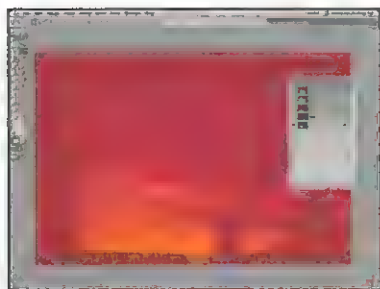
10 Next, we created another new channel, and with the new channel selected, we enabled the visibility of the composite channel. Using the **Polygonal Lasso** we drew a longer and wider beam shape and filled the selection with white. After deselecting, we selected **Filter > Blur > Gaussian Blur** from the menu and specified a radius of 100 pixels.

11 We loaded this channel as a selection, then selected the composite channel and turned off the visibility of the newest alpha channel. With the selection active we chose **Load Selection** from the **Select** menu. From the **Channel** pull-down we selected the 'clouds' alpha channel. Next, we chose 'Intersect with selection' in the **Operations** section and clicked **OK**.

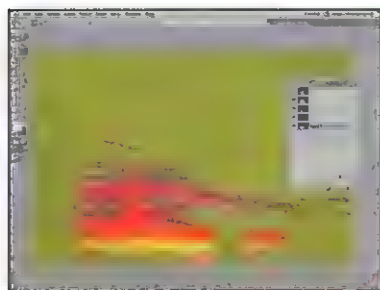
12 With this selection active we specified a light yellow foreground colour and created a new layer in the **Layers** palette. We set the layer mode to **Overlay** and the **Opacity** to 60%. Then, using the **Radial Gradient** with a setting of 'Foreground to transparent' we created a gradient with this selection from the top to the bottom and deselected to add a misty quality to the light.

More creative techniques

Modify your channel display settings and use existing colour channels to isolate tricky areas



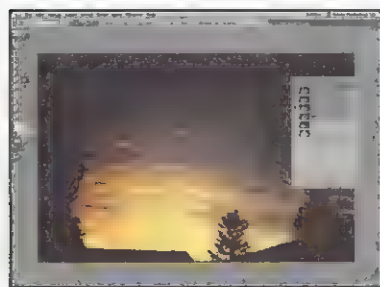
Here, we wanted to remove the pinkish areas from the sky and create of a yellow glow instead. We selected the Magic Wand tool, and with the tolerance set to 50 and the Contiguous setting disabled, we clicked on a hot pink section of the sky. Next, we clicked on the 'Save selection as a channel' button and with the composite channel still selected we enabled the visibility of the new channel.



The red display colour is too similar to the area we were trying to isolate. We double-clicked the alpha channel icon and changed the display colour to a bright green to see the subtleties of our selection. This showed we needed to expand our selection, so with the composite channel selected we increased the Tolerance of the Magic Wand to 80 and chose Select > Grow from the menu.



We selected the alpha channel and filled the selection with white. Then we selected the composite channel and switched off alpha channel visibility. We adjusted the Hue/Saturation to make the selected area more yellow and deselected it. Next, we dragged the red channel onto the 'Create new channel' icon to duplicate it. Then we increased the contrast of the red channel copy via the Levels controls.



We generated a selection from the channel, and with the selection active, we selected the composite channel and disabled the visibility of the red copy channel. Then, using the Radial Gradient with a soft yellow foreground colour, and a setting of 'Foreground to transparent', we drew a gradient upwards from the bottom centre to create a glow on the horizon.



Splitting channels

It is possible to split a flattened image containing no layers into separate greyscale images that you can edit individually. This is a handy feature when you want to preserve channel information in a format that doesn't retain channels. Simply choose Split Channels from the Channels menu. This will close the image and open a new greyscale image for each channel in the image.



Merging channels

It is possible to merge greyscale images with the same pixel dimensions into a single image. The number of images you are merging will determine what sort of image mode will be available. For example, you need three images to create an RGB image, or four images to create a CMYK image. To merge the channels, open the images in Photoshop, choose Merge Channels from the Channels palette menu in the active image, specify a colour mode and click OK.

Chapter 4

TEMPORARY MASKS IN QUICK MASK MODE

In this chapter...

- How to use Quick Mask and exit the Quick Mask mode
- How to use the Quick Mask function options
- How to use the Quick Mask function to create a temporary mask
- How to use the Quick Mask function to edit a mask based on an existing selection
- How to use the Quick Mask function to create a mask based on an existing selection

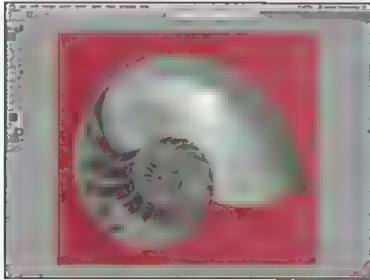
Quick Mask mode allows you to edit any active selection in the same way that you would edit an alpha channel, while still viewing your image and without using the Channels palette

There will be many occasions while you are working with selections when you will want all of the flexibility of working with an alpha channel, but you simply would rather not – or don't have time to – bother with the Channels palette. That is where the appropriately-titled Quick Mask function comes in. When you need to create a temporary mask to store a selection for only a short time, Quick Mask is the method that should spring to mind first. After reading our previous chapter about alpha channels, the fundamental principles of Quick Mask will seem, without a doubt, both logical and obvious to

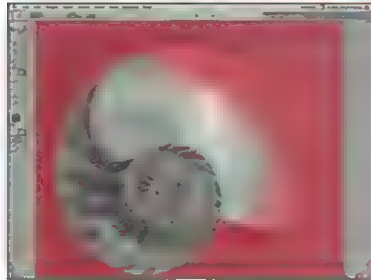
you. And working through this chapter, you should find yourself masking away with confidence in no time at all.

What is Quick Mask?

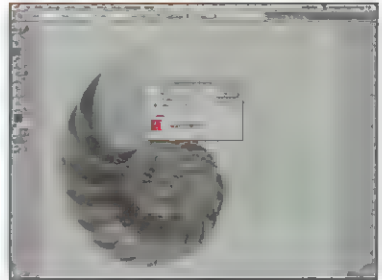
Quick Mask is a mode that changes the way that your workspace operates temporarily. It gives you the chance to create and edit masks for your images without ever allowing the contents of the image window to disappear from view. 'Quick Mask' should be thought of as a verb rather than a noun – it's a state that allows you to create a temporary mask and then use it by entering and exiting this masking state.



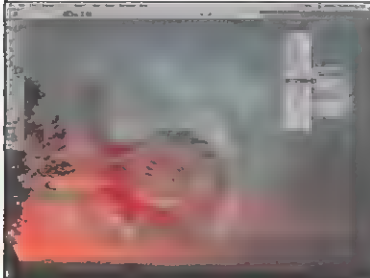
Page 54 Enter Quick Mask editing mode and create a temporary mask



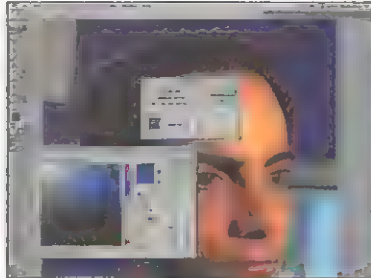
Page 56 Edit your temporary mask in Quick Mask mode with various tools



Page 57 Change the behaviour of the transparent coloured Quick Mask areas



Page 57 Create stunning images from your Quick Mask selections



Page 59 Edit the display colour of your temporary mask for better viewing



Page 59 Save the temporary mask as an alpha channel to load the selection later

How does it work?

Although Quick Mask saves you from bothering with alpha channels and the Channels palette, it is similar to working with alpha channels in many ways. A lot of the same options and functions are available, and many of the same rules apply. Like an alpha channel, a temporary mask in Quick Mask mode can be created from scratch or from an existing selection. And also like alpha channels, you can use almost any editing tool or filter, including selection tools, to edit a temporary mask. The display options for Quick Mask mode are basically identical to those used for individual alpha

channels, allowing you to control whether you are creating masked or selected areas, and also providing quite a bit of flexibility when it comes to how your temporary masks are displayed in Quick Mask mode.

Why use it?

Like many aspects of Photoshop, there will be instances in your workflow where Quick Mask is the only suitable choice. Although it is ideal for working in situations where you need a quick temporary mask, it can also be perfect for times when you want to create a complex mask, while your image window contents remain displayed the entire time.

Entering Quick Mask mode

To create a temporary mask you need to understand how to enter Quick Mask mode



Quick Mask shortcut

You don't have to use the buttons on the toolbar to switch between 'Edit in Standard Mode' and 'Edit in Quick Mask Mode'. Like almost every operation in Photoshop there is a shortcut. Click the [Q] button on your keyboard to toggle from one mode to the other.

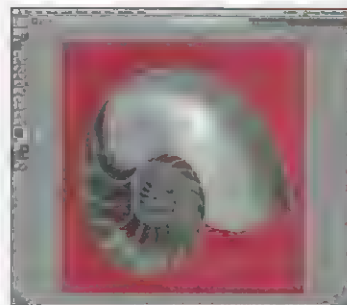
To work with temporary masks you'll need to familiarise yourself with an area in the toolbar you probably haven't noticed much. Near the bottom of the toolbox, directly below the foreground and background colour area, there are two buttons that determine which mode you are working in. By default, the left button is enabled. This is the 'Edit in Standard Mode' button and is the normal working mode for most of your image editing and manipulation work in Photoshop. The button to the right of

this is 'Edit in Quick Mask Mode'. Clicking this will switch from normal mode to Quick Mask mode, and automatically creates a temporary mask. If you have a selection active when you enter Quick Mask mode, all of the areas outside the selection will be masked, leaving the selected area alone, preserving it. If you enter Quick Mask mode with no active selection, then the entire canvas is untouched until you use an image editing tool of any kind to add colour, masking certain areas.

EDITING IN QUICK MASK MODE

Enter Quick Mask mode and edit your temporary mask

In Quick Mask mode, whether you start with an existing selection or not, the task of editing your temporary mask begins. Select a painting or editing tool from the toolbox. As a default setting, painting with black will add to the masked area, and painting with white adds to the selected area, making it bigger. As with channels, all of the greyscale values fall into place in between, creating various degrees of masking or selection. As well as using paint and editing tools, you can use selection tools and filter and adjustment commands from the menu. When you've finished editing, click back on the 'Edit in Standard Mode' button, to convert your mask to a selection.

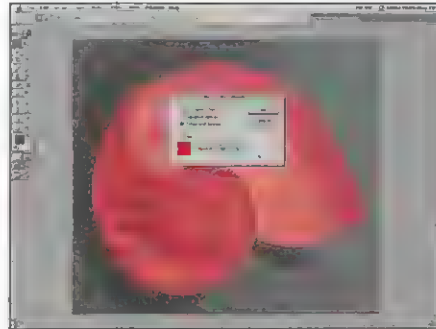


In default Quick Mask mode, masked areas are covered with a red overlay of 50% opacity, selected areas are not.

Quick Mask options

As with individual alpha channels, you can alter the way Quick Mask mode works

You may need to alter the Quick Mask options at certain times, so it is a good idea to get acquainted with them. Quick Mask mode works on the principle of areas with, and areas without, colour. By default, the areas without colour, or 'white' areas, are the selection areas. The areas containing colour, the 'black' areas, are the masked areas. To change this setting double-click on the Quick Mask Mode button and the Quick Mask options appear. The first option allows you to change what the colour represents – the masked areas or the



Using the Quick Mask options, you can specify whether the coloured areas in your mask will represent masked or selected areas.

selected areas. The second option allows you to alter the colour itself and the opacity of the coloured areas.



Button appearance

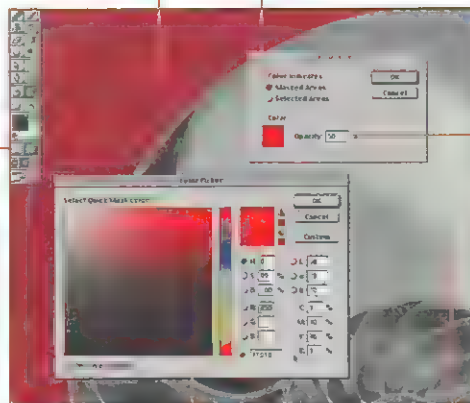
When the Quick Mask settings are set to their defaults, with colour indicating masked areas, the Quick Mask Mode button has a white dot on it surrounded by grey. If you reverse the settings so that colour represents the selected areas, the button appears as a grey dot on a white background. This is a handy way of finding out your settings without entering Quick Mask Mode.

QUICK MASK AND ITS OPTIONS

By default, when you enter Quick Mask mode with a selection active, the masked areas are the areas that contain colour.

Use these two buttons to switch between normal editing and Quick Mask mode, double-click the Quick Mask mode button to access its further options.

You can change the colour of your coloured areas in the mask by accessing the colour picker under the Quick Mask options.



In the Quick Mask options box you can change whether the areas of colour in your temporary mask indicate selected or masked areas.

Depending on your needs for individual masks, you can alter the opacity of the colour overlay to provide more or less visibility.

And also by default, when you enter Quick Mask mode with a selection active, the selected areas are the areas that contain no colour.

Using Quick Mask mode

Create a temporary mask based on an existing selection and edit it with Photoshop's tools



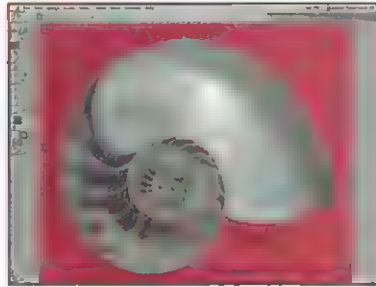
Photoshop Elements

Unfortunately for users of Adobe Photoshop Elements you will not find the Quick Mask mode in your toolbar. Photoshop Elements does not support channel editing, and since all masks – even temporary ones – must use channel technology, it simply isn't possible to work in Quick Mask mode.

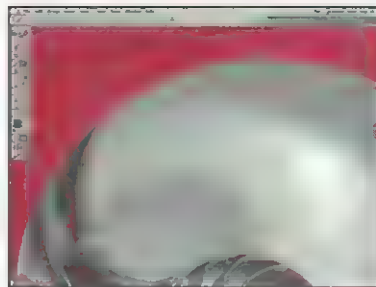


Toggling between options

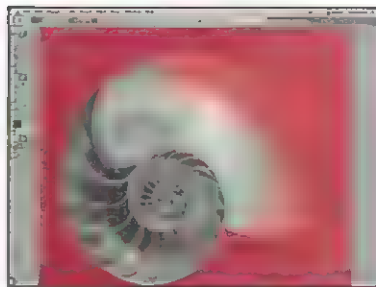
You can quickly change whether the coloured areas of your masks represent selections or 'masked out' parts of the image. Holding down the [Alt] key (on a PC), [Option] key (on a Mac), and clicking on the Quick Mask Mode button will enable you to switch this setting quickly.



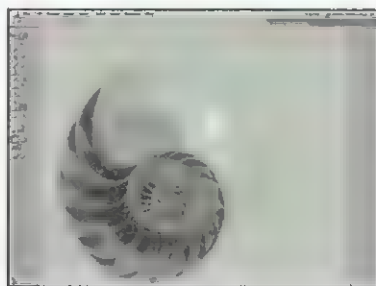
1 We used the Magnetic Lasso tool to create a selection border around the nautilus shell to separate it from the background. When we finished and closed the selection we clicked on the 'Edit in Quick Mask Mode' button to create a temporary mask around the shell. The default settings determine that the areas of colour are the masked areas.



2 Although the selection we based the mask on was anti-aliased it is still quite a hard-edged selection. We want a softer selection, so in Quick Mask mode we selected the Paint Brush tool. We specified a 30 pixel wide soft brush tip, a black foreground colour and an opacity setting of 100. Then we zoomed in to 100% and painted along the selection edge to soften it.

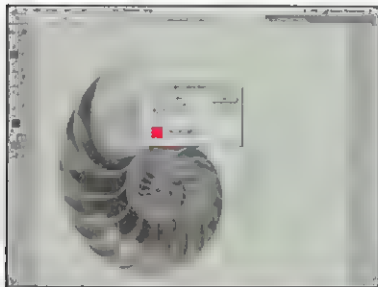


3 Next we selected the Gradient tool from the toolbar. We chose the Radial Gradient option set to the 'Foreground to transparent' setting, and set the Opacity to 100. Using a black foreground colour we clicked and dragged to create a series of gradients both large and small, covering the top and right edges of the shell.

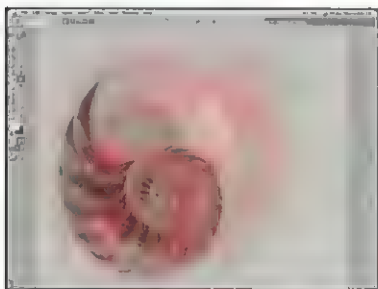


4 We exited Quick Mask mode by clicking on the 'Edit in Standard Mode' button, converting the mask to a selection. We inverted the selection by choosing **Select > Inverse** from the menu. We sampled a colour from the shell using the Eyedropper tool and filled the active selection with it by choosing **Edit > Fill** from the menu, then we deselected the active selection.

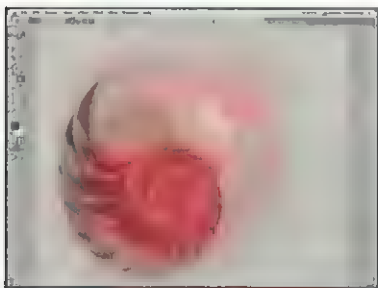
Create a temporary mask, using no existing selections, with a filter for interesting effects



5 This time around, using the existing image, we double-clicked the 'Edit in Quick Mask Mode' button to access the Quick Mask options. We switched the colour indication from Masked Areas to Selected Areas and clicked OK. Then, in Quick Mask mode, we selected Filter > Render > Clouds from the menu.



6 This fills the entire temporary mask with random cloud patterns generated from the foreground and background colours. To remove it from some areas we selected the Gradient tool, again set to Linear. With it set to 'Foreground to Transparent' we changed the foreground colour to white and drew a series of linear gradients from the canvas edges inwards.



7 Now we know that the coloured areas represent the selected areas, and by looking at the temporary mask we can see that we could use some more selected area in the spiral of the shell. We switched the foreground colour to black and the Gradient tool to a Radial Gradient. Then we drew a radial gradient out from the centre of the spiral.



8 We clicked on the 'Edit in Standard Mode' button to exit Quick Mask mode and generate a selection from the temporary mask. With the selection active we chose Edit > Copy from the menu. Then we opened another image and chose Edit > Paste, to paste the selected area into the image as a layer and changed the blending mode of that layer to Overlay.



Nothing is permanent

Remember, when working with masks it is all about adding and subtracting colour. If your colour represents masked areas, then fear not if you have over-compensated in areas of colour – simply paint over them with white to remove some of the colour. Have fun and don't be afraid to try things out.



Opacity issues

If you are painting on your temporary mask with black and it doesn't seem opaque enough, check out a couple of areas. The first place to look is in the tool options bar to see if your brush opacity is set to 100. Another thing to check is the foreground colour: make sure that it's black that you are using and not a lighter shade of grey.

Quick Mask and Channels

Alpha channels and temporary masks work within the same set of rules



Saving Masks

Saving your temporary masks is a good habit to get into, especially when it is an area that you are likely to want to select again later on. You aren't limited to using the masks in their current state either. Load the channel as a selection and then enter Quick Mask mode to edit the selection. This will leave your alpha channel untouched, yet let you edit the selection you generate from it.

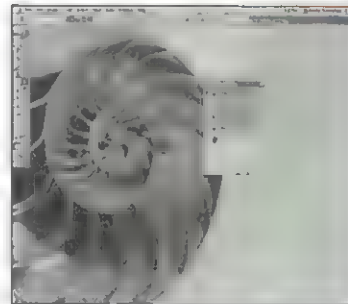
You'll soon begin to notice that temporary masks and alpha channels work in a very similar way. The principle of eight-bit greyscale images is a common fundamental building block for both alpha channels and temporary masks. No matter how you have your Quick Mask options set, the principle is always based on colour and the absence of colour, with one defining a selected area, and the other defining a masked area. All other greyscale values represent varying degrees of masking and selection

and fall into place in between. Alpha channels are exactly the same – no matter how the channel options are set, the colour defines one area of a stored selection and the absence of colour defines the other. Similarity between Quick Mask mode's temporary masks and the stored selections of alpha channels is shown in the Channels palette. Click on the 'Edit in Quick Mask Mode' button, enter the Quick Mask state and a new channel appears in the Channels palette, representing your temporary mask.

SAVING IN QUICK MASK

Sometimes it's a good idea to save your temporary masks

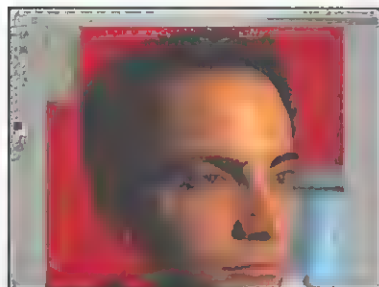
When working in Quick Mask mode the temporary mask you are working on appears in the Channels palette and is appropriately named 'Quick Mask' by default. When you decide to exit Quick Mask mode, your Quick Mask channel in the Channels palette disappears from view. When you've spent a lot of time and effort creating the perfect temporary mask you may want to save it for use later on, and there is a way to save your mask in its current state as an alpha channel. When working in Quick Mask mode, in the Channels palette, drag the Quick Mask channel icon onto the 'Create a new channel' button to make an alpha channel copy of it



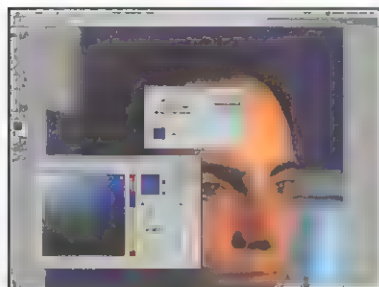
When you make a copy of your Quick Mask channel and exit Quick Mask mode, the copy remains as an alpha channel.

Changing the display

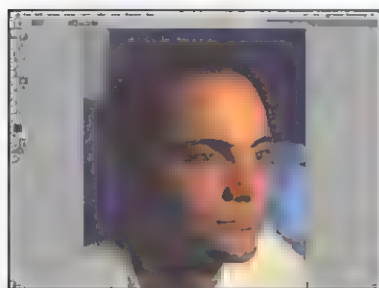
Quick Mask lets you alter the colour and opacity of the transparent overlay for better visibility



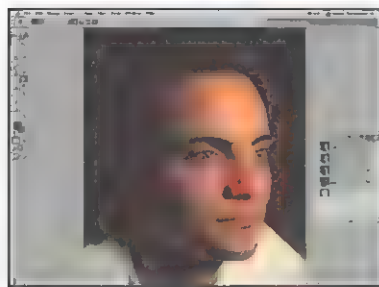
1 Here we selected the Magic Wand from the toolbar and used it to isolate the red background area. The resulting selection was less than perfect, so we typed [Q] to enter Quick Mask mode and clean it up. We had the options set so that the colour indicated the selected areas, but as you can see here, it was difficult to see the underlying colour through the red overlay.



2 We double-clicked the 'Edit in Quick Mask Mode' button to access the Quick Mask options. We clicked on the colour swatch to access the colour picker and selected a blue colour that would help us differentiate the background and clicked OK. Then we reduced the opacity of the colour overlay to 30% to make the background a little more visible.



3 We selected the Brush tool with a small soft brush tip and a black foreground colour. We painted over any areas of the background missed by the Magic Wand, such as areas between wisps of hair, over the PC, and the picture hanging in the background. After that we switched the foreground colour to white and painted to remove any coloured areas that overlayed the face or his hair.



4 Still in Quick Mask mode, in the Channels palette, we dragged a copy of the Quick Mask channel onto the 'Create a new channel' button, to make a copy of it, in case we wanted to load the selection again later on. We returned to Standard Editing mode by typing [Q], then filled the active selection with a dark colour. Next we added some subtle red gradients in the selected area.



What a drag

When you are working in Quick Mask mode you will see the temporary mask called Quick Mask in the Channels palette. You can copy this channel to another open image by clicking on the channel icon and dragging it into the image window of the other file. The Quick Mask channel will be added to the other window as an alpha channel. For best results, use images of identical size.



Greyscale preview

When working in Quick Mask mode, even though you can change the colour and opacity of the colour overlay, it can sometimes be difficult to see exactly what you have masked and what you haven't. If you hold down the [Control] key (PC), [Command] key (Mac) and type ['] on the keyboard your image will be hidden and you can preview and edit your mask in greyscale. The same keyboard command will exit this preview.

DISCOVERING VECTORS AND CREATING PATHS

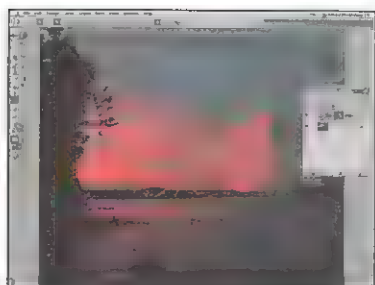
Combining vector technology with image editing opens the door to a whole new world of possibilities. The versatile Pen Tool allows you to integrate vectors into your image files

When we talk about painting in Photoshop we are talking about using pixels. In its most basic form, painting, no matter how you approach it, changes the colour of pixels. Changing the colour of pixels can be as complex as working within greyscale alpha channels, filling transparent areas with colour or blurring the colours of pixel groups together to create soft effects. But no matter how you look at it, your image is made up of pixels. There is a specific number of pixels in your file and editing them with paint tools won't change that because you are working within a resolution that was specified when you created your file.

But when it comes to drawing, it's a whole different game – the concept of pixels is no longer relevant. Instead we start talking about 'vectors'.

Drawing with vectors

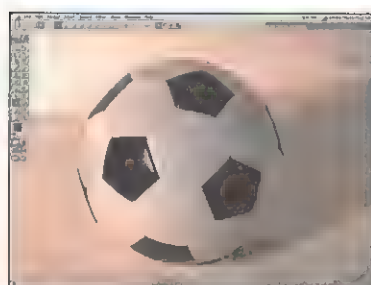
Drawing involves the creation of paths and shapes which exist and operate independently of the pixel content and resolution of your imagery. Rather than thinking in terms of pixels, it is important to think in terms of vectors. Using the vector object creation tools you can create almost any shape imaginable. The advantage of shapes over pixel-based elements is their 'resolution independence' – vector objects and



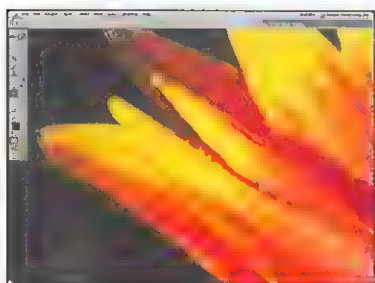
Page 62 Understand the difference between paths and shape layers



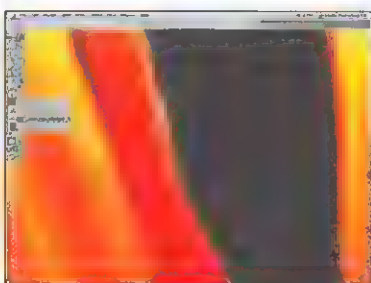
Page 63 Simulate traditional drawing with the Freeform Pen Tool



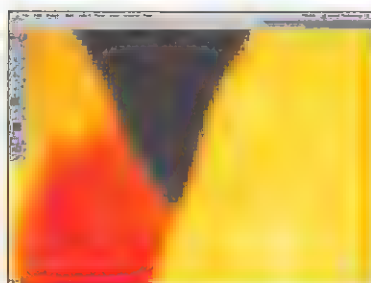
Page 65 Learn to create smooth curves on your paths with the Pen Tool



Page 69 How the Convert Point Tool smooths out sharp corner points on paths



Page 70 The Delete Anchor Point Tool removes unwanted anchor points on curves



Page 71 The Convert Point Tool changes anchor points to editable corner points

paths are not limited by the resolution of the image in which they reside. You can resize your paths as large or small as you like, and reshape them as many times as you need, and the edges defined by your path will still be sharp and crisp, suffering none of the image degradation that frequent distortion and manipulation causes to pixel-based imagery.

Flexible vectors

Vector objects not only retain their sharp, clearly-defined edges within Photoshop but also do so when saved in a PDF file, imported into a vector-based program like Adobe

Illustrator (see demo on CD), or even printed to a postscript printer.

Photoshop's oldest and most powerful vector creation tool, the Pen Tool, is still used frequently by Photoshop users the world over. The Pen Tool's main purpose is to provide you with the technology you need to create paths within your pixel-based images. Paths are often useful for creating a shape to define a selection edge that is sharp. But the path does not have to consist of a series of straight lines like a polygon shape. Vector technology allows you, through the use of 'handles', all the control you need to create smooth, contoured edges.

Vector tools

You can add vectors to your pixel-based image files by using either the Pen or Shape tools



Fill Pixels

When you have the shape tool selected, there is a third option called Fill Pixels. Selecting this option will result in the creation of rasterized shapes, not vector objects. Using this option will create a selection and fill it with the current foreground colour. So when it's vector objects you want, be careful to check that this pixel-based shape option is not enabled.

There are two ways to create vector objects within your image files. In the toolbar, side by side, you will find the Pen Tool and the Shape Tool. Either tool allows you to draw a vector path in your image. The main distinction between the two tools is versatility versus convenience. The Pen Tool allows you all the flexibility you will ever require. The premise of the Pen Tool is to create a series of points joined by lines to create a closed shape. The advantage of this tool is that you can create any shape you like – you

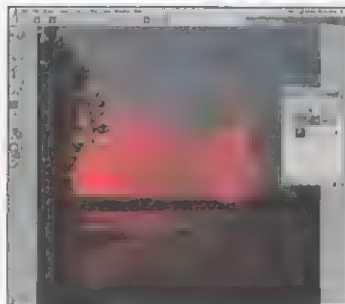
simply select the Pen Tool and begin drawing. Alternatively, the Shape Tool offers you a more convenient way to draw existing Path shapes using the presets available. The trade-off is that the Shape Tool is initially less flexible, but can save you time when all you need is a basic shape.

But this is only the beginning, because no matter which of these tools you opt to create a path with, it can easily be edited after its creation. You can add and delete anchor points, adjust and create curves, or reshape paths completely.

VECTOR TOOL OPTIONS

As well as the two vector creation tools, there are two tool options

Every tool in Photoshop, when selected, has options in the tool options bar at the top of the screen. Whether you choose the Path or the Shape tool, the two most important options are the first two in the tool options bar. They control what sort of vector shape the chosen tool creates – a path or shape layer. If the Shape layer function is enabled, your vector shape will become a shape layer in the Layers palette, on completion. It will be filled with the current foreground colour, and its edge defined by the path shape. The second button is the Paths function. When enabled, it creates a path from your vector object in the Paths palette.



Both shapes were drawn with the Pen Tool, the left created with the Path option, the right with the Shape Layers option.

The Pen Tool

Photoshop's oldest vector creation tool is perfect for creating and joining all those points

The Pen Tool is one of the most versatile of all Photoshop tools, because it allows you to draw any vector shape you desire. When you look at what the Pen Tool does and break it down into its simplest form there are two basic functions that it performs. The first function is that of creating an anchor point. The second function is to add a line segment joining one anchor point to the next. These two functions combined allow you draw Paths. So how does it work? The simplest way to use the Pen tool is first to click

anywhere in your image window – this will create your first anchor point. Then you simply move to any other area in your window and click a second time, creating a second anchor point. As soon as you click to create your second anchor point a line segment will be created automatically, joining the two points. Continuing on in this manner, moving and clicking creates a 'path' – a series of anchor points joined by line segments. The great strength of the Pen Tool is to allow you to create any path you like with great precision.



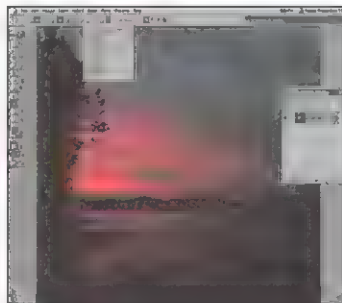
Using a tablet

If you are using the Freeform Pen Tool over the regular Pen Tool because you are looking for a more intuitive way to draw, you may want to consider trying a pressure-sensitive tablet. It provides a great way to draw your paths, which feels like traditional drawing. The Freeform Pen Tool also has a Pen Pressure option, which you can enable in the Geometry Options, to allow you to increase the intuitive feel of drawing your paths.

THE FREEFORM PEN TOOL

Create paths on screen and feel like you're drawing on paper

For those more used to traditional drawing, the idea of sketching something by creating a series of points and watching the application automatically connect them may seem strange. But you'll get the hang of it after a while. Until then, there's the Freeform Pen Tool, in the Pen Tool pop-up menu in the toolbar. When you select this tool and click and drag, it creates a path based on your mouse movements, adding points and curved line segments automatically. You can also use the Magnetic function in the tool options bar to make the Freeform Pen act like the Magnetic Lasso tool, snapping the path to distinct edge points.



The Geometry Options in the tool options bar allows you to specify how the Freeform Pen Tool will behave.

The Rubber Band

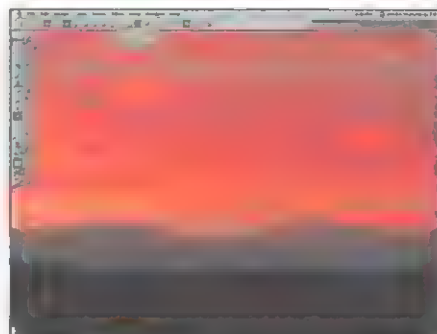
If you want to see things as they happen, the Rubber Band option is just what you need



Resolution Independence

Pixel-based images have a specified 'resolution' – the number of pixels that make up the images. If you have an image with a path in it, the path is not limited by the resolution of the image. If you increase or decrease the pixel resolution of the image, the path will remain the same in proportion to the image.

When using the Pen Tool, you will not be able to see where the line segment will fall until you have created your second anchor point. Through experience you'll start to anticipate, and visualise quite accurately, where and how the line segment will appear. However, until then you can enable the rather handy Rubber Band function. With this function enabled, after you place your initial anchor point you will see a line that connects your mouse pointer to the initial anchor point, no matter where you move the mouse. This line



The Pen Tool Geometry Options, including the Rubber Band, are accessible in the drop-down menu in the tool options bar.

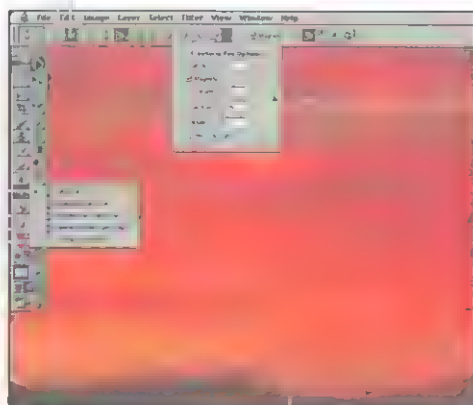
shows you exactly how your line segment will appear when you add the next anchor point.

VECTORS INTEGRATED INTO PHOTOSHOP

There are a number of functions nested within the Pen Tool pop-up menu, here you can choose between the Pen and Freeform Pen vector creation tools.

Use these two functions on your existing paths to change their shapes by either adding or deleting anchor points.

Use the Convert Point Tool to edit the existing anchor points of your paths, altering the curves and contours using bezier handles.



Choose between the two basic vector object modes. The first button allows you to create shape layers, while the second allows you to create paths.

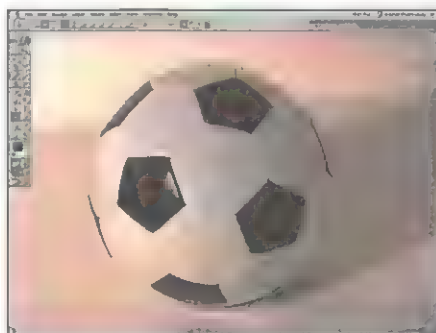
Specific options for the Pen and Freeform Pen tools can be accessed via the Geometry Options pull-down menu in the tool options bar.

The paths you create, which are a series of anchor points and line segments, co-exist in Photoshop with your pixel-based imagery.

Creating curves

You can create smooth curves on your paths by clicking and dragging with the Pen Tool

When working with the Pen Tool, you are not limited to sharp polygonal shapes created by straight line segments – you can create curved line segments too. When you click to add an anchor point, hold the mouse button down and drag. As you drag, the mouse pointer shows two direction lines – just drag in the direction you wish the curve to follow and release the mouse button. Your anchor point for the curved segment will now have two direction lines extending from it, with direction points on each end.



When you click and drag to create an anchor point, a smooth anchor point is created with direction points that let you alter the curve.

To adjust the contour of a curved segment, click and hold a direction point then move it to alter the curve.



The [Shift] key

You can select more than one path or path component using either of the selection tools and holding down the [Shift] key.

When using the Path Selection Tool, select a path, then hold down the [Shift] key and select a second path. Do the same with the Direct Selection Tool to select additional path components.

PATH SELECTION

THE PATH SELECTION Tool enables you to select an entire path or shape. It looks like a solid black arrow and sits conveniently above the Pen Tool in the toolbox. By selecting the Path Selection Tool from the toolbox and clicking on any anchor point or line segment you will select the entire path and can move it accordingly. You can also select more than one path by dragging a marquee that encompasses any part of more than one path using the Path Selection Tool.

THE DIRECT SELECTION Tool resides within the Path Selection Tool pop-up in the toolbox. It allows you to select individual path components. You can click on an anchor point and move it, a line segment and move it, or even select a direction point of a curve and move it using the Direct Selection Tool. And like the Path Selection Tool, you can select more than one component by dragging out a marquee while using the Direct Selection Tool.



Pen/Selection tools

When using the Pen Tool you do not have to keep returning to the toolbox to access the Direct Selection Tool or the Path Selection Tool. With the Pen Tool selected, hold down the [Ctrl] key (PC), or [Command] key (Mac) to temporarily switch to the Direct Selection Tool.

Or hold down [Control]+[Alt] (on a PC), or [Command]+[Option] keys (on a Mac), to access the Path Selection Tool.

More about Paths

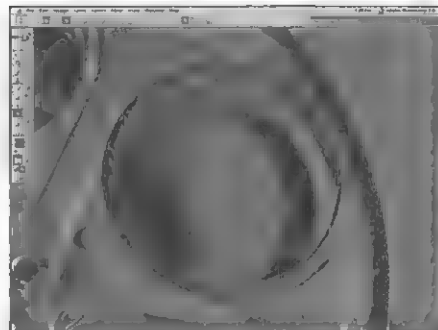
A path is often used to enclose an item you wish to generate a selection from or isolate



Opening paths

When you have closed a path you can reopen it by using the Direct Selection Tool. Simply click on an anchor point or line segment and press the [Delete] key. This will delete the selected area, opening the path. To add to the path, click on an end anchor point with the Pen Tool to activate it, the next point you draw will be connected to that point with a line segment.

Although it is possible to draw an open-ended path in Photoshop, the uses for such a path, like creating a brush stroke along it, are quite limited. Generally, a path is not and end in itself but a means to isolating something via a sharp and precisely-drawn edge, which a selection or mask can be created from. To create a proper selection a path must be closed. Closing a path means rejoining the final line segment of the path with the first anchor point, creating a closed shape. When your cursor is above



When drawing a path, you can close it by connecting your last anchor point to your first to isolate an area of your image.

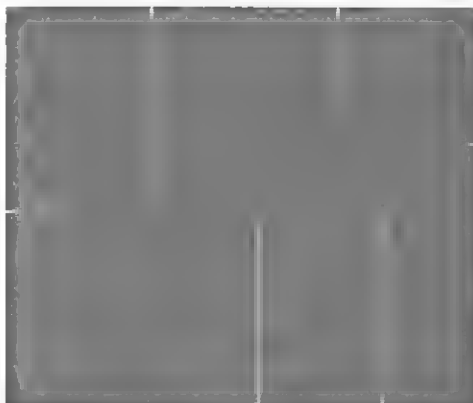
the first anchor point, a circle appears next to the it, letting you know that when you click, the path will close.

MORE ABOUT CURVES

Here we clicked and dragged downward, this adds a curved line segment from the first anchor point and defines the next curve.

Clicking and dragging upwards defines which direction the curve of the line segment will follow and creates the first anchor point.

For the third point, we clicked and dragged upwards, finishing off the second curved line segment and defining that the next curve would be upwards.



Here we started another path and clicked and dragged upwards and to the right to define the direction of the curve.

Clicking and dragging in the same direction we added another anchor point. Creating two points while dragging in the same direction will create an 's'-shaped curve.

Using the Direct Selection Tool allows you to access a Directional Point and alter the direction of the curve, adjusting the line segment.

Adding and deleting

There are two path editing tools in the Pen Tool menu, which allow you to add and delete points

In the Pen Tool pop-up menu in the toolbar there are two tools that you can use to assist you in editing your existing paths. The first of these is the Add Anchor Point Tool. As its name suggests, this tool allows you to add points to existing paths. With this tool selected, just position the pointer over a section of the path where you would like to add a new anchor point, and you'll see a small plus sign appear next to the pointer. Click to add a new anchor point. Clicking and dragging with this tool will add a new point and

alter the curves of the line segments because, as we discovered earlier in this chapter, dragging with the Pen Tool defines the direction lines for the new anchor point. Conversely, to subtract an anchor point, choose the Delete Anchor Point Tool from the Pen Tool pop-up menu. Position the pointer over an anchor point on a path that you want to delete, and this time a minus sign appears next to the pointer. Click to just delete the point, or click and drag to delete the point and also change the curve of the line segment.



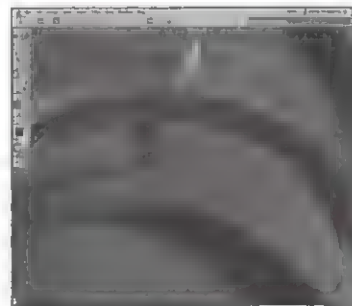
Smooth curves

Often in Photoshop, less is more. Doing something simply and well gives you a much better result than over-complicating things. Creating curves is a prime example. When drawing a curve, place anchor points methodically and far apart, use as few anchor points as possible and spend your time altering the directional points to get the curves right. The more points you add, the more chance your curves will appear bumpy.

AUTOMATIC EDITING

Work more efficiently by automating some path editing functions

Look at the tool options bar at the top of the screen when you have the Pen Tool selected and you'll notice a small checkbox called Auto Add/Delete. Click on the checkbox to enable this function. This function makes your Pen Tool behave intelligently and add and delete anchor points for you automatically, based on where you position the mouse pointer. If the mouse pointer is sitting over the top of a line segment, a plus sign will appear beside it, and clicking on the segment will add a point to it. If the pointer is positioned over an anchor point, a minus sign will appear next to it, and clicking will delete the point.



Auto Add/Delete adds an anchor point and adjusts the curve automatically, when you click and drag a line segment.

Converting points

Smooth point or corner point? Change your mind as you wish, with the Convert Tool



Only results are visible

When you are using paths with the Add, Subtract, Intersect and Exclude functions keep in mind that you will only see the results when you do something with the paths. Until you use them to create a selection or a vector mask, they will just look like normal paths. If you click on a path using a selection tool, you will see how it is going to react because the appropriate button will be pressed in the tool options bar.

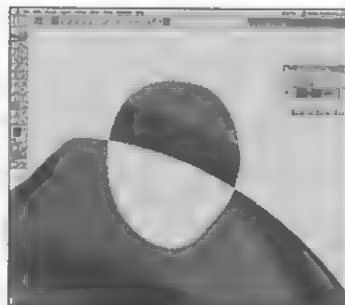
With paths, there are two different types of points you can create, each with a different purpose. Corner points are used to define a visibly sharp area of your path and are created by clicking. Smooth points are used to create a rounded or smooth curve along your path and are created by first clicking and then dragging the directional point. For those times when you have drawn a path and wish that you had used a corner point in place of a smooth point, or vice-versa, you can go back and change things by using

the Convert Point Tool – the last item in the Pen Tool pop-up menu in the toolbar. To convert a smooth point to a corner point, just select the Convert Point Tool, position the mouse pointer over the smooth point and click. Alternatively, you can convert a smooth point to a corner point by clicking on a visible direction point with the Convert Point Tool and dragging. If you wish to convert a corner point to a smooth point, simply click and drag away from the point, and the smooth point direction lines will appear.

OVERLAPPING PATHS

Add, subtract, intersect or exclude using more than one closed path

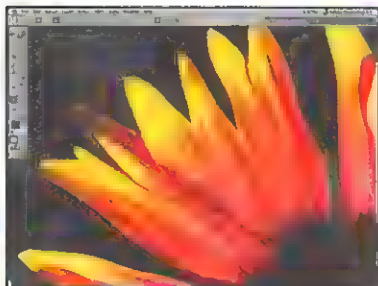
Like the selection marquee tools that we discussed in chapter one, you can also use one path to modify another. A different result will be visible if you generate a selection from your path or use it to create a vector mask depending on how you use the Add, Subtract, Intersect and Exclude buttons in the tool options bar. The 'Add to path area' button adds the two paths together. The 'Subtract from path area' button will subtract one path area from another. 'Intersect path areas' will use only areas where the two paths overlap. While 'Exclude overlapping path areas' will use only areas of the paths that do not overlap.



As seen here, the 'Exclude from path area' option shows only areas of paths that don't overlap each other.

Using Path tools

Use the Convert Tool to smooth corner points and the Direct Selection Tool to reposition them

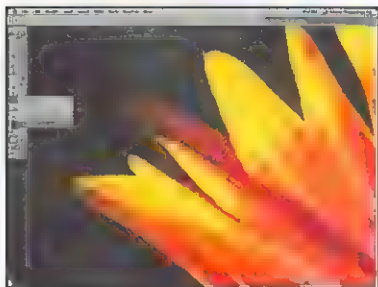


In this example we first selected the Pen Tool from the toolbar. Next we quickly drew a very rough path around part of the outer edge of the flower. By clicking and then moving the pointer and clicking again, we created a series of anchor points that were joined by straight line segments.



Crosshair conversion

Paths are very precise tools and you can actually get in close enough to draw them between pixels. Sometimes while drawing a precise path using the Pen Tool you will notice that the Pen icon on the mouse pointer can get in the way of where you need to see. To remedy this, press the [Caps Lock] key to convert the mouse pointer to a crosshair.

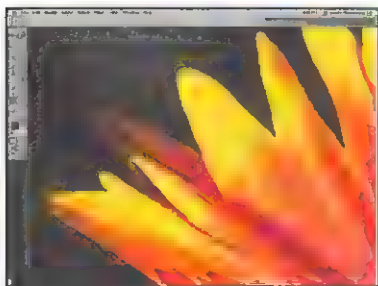


Looking at the initial result we can see that it's somewhat less than perfect. Drawing straight line segments creates a polygonal shape, when we need more of a curved area. We zoomed in on a problem area using the Zoom tool and then we selected the Convert tool from the bottom of the Pen Tool pop-up menu.

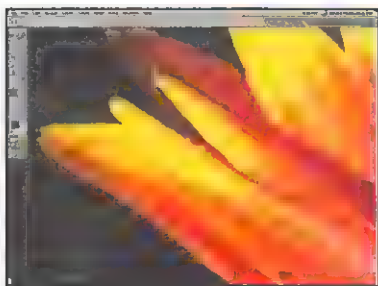


Duplicating

You can make a duplicate of any path in your file. Simply select the Path Selection Tool or the Direct Selection Tool from the toolbox. Holding down the [Alt] key (PC) or the [Option] key (Mac), click on a path or path segment and drag. This will create an exact duplicate of your path.



We clicked and dragged on an anchor point using the Convert Tool to convert it to a smooth point. This worked very well, so we did the same thing to the rest of the points on the path. We tweaked the curves by zooming in and moving the directional points of selected anchor points using the Direct Selection Tool.



Once the curves were looking right, the only remaining problem was that they weren't hugging the edge of the flower, so using the Direct Selection Tool, we dragged them into place, point by point. When a point is moved it affects the curve of the line segment, so we made any necessary adjustments to the directional points of any segments that needed it.

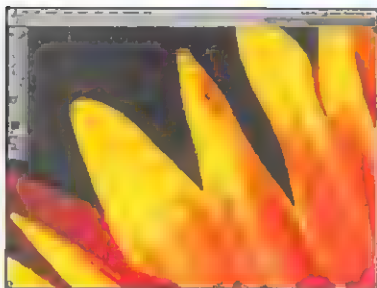
Using Path tools continued

Improve a path by adding more anchor points or continue it by adding smooth points



Direction points

When you click and drag a direction point using the Direction Selection Tool, the curved segments on both sides of the smooth point adjust simultaneously. However, if you move a direction point of an anchor point, the curve on that side of the point is adjusted only, leaving the other side untouched.



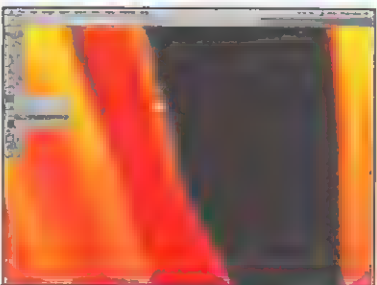
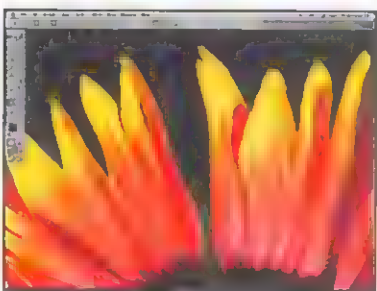
Although the curved line segments were hugging the edges of the flower better, no matter how often we moved them, they weren't perfect. We simply needed some more points to follow the contour, so we selected the Add Anchor Point Tool from the toolbar and clicked and dragged to create a smooth point along a line segment that needed it.

With this tool selected we positioned the mouse pointer over the point we just created and it temporarily turned into the Direct Selection Tool. Using this tool we positioned the new point exactly where we wanted it and adjusted the directional points of the curve. Using this same technique we added and positioned smooth points along the path.



Relentless rubber band

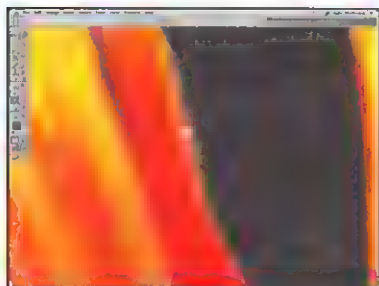
When you are using the Pen Tool and have the Rubber Band option enabled it may seem that the only way to stop a line segment from following the mouse cursor around is to close the current path you are drawing. However, if you hold down the [Control] key (PC) or the [Command] key (Mac), and click you will deactivate the current path, temporarily stopping the line segment from following your cursor until you click again.



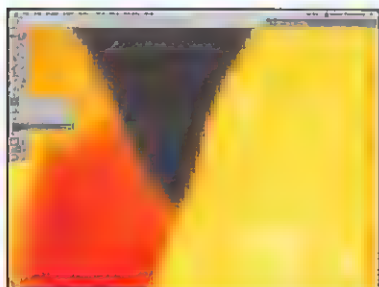
Next, we selected the Pen Tool from the toolbar. To continue the path we located an end point and clicked on it to make it active. Then we clicked and dragged to add a series of anchor points to trace more of the flower edge. Clicking and dragging allowed us to create smooth points and follow the contour with less effort.

Again, we used the Direct Selection Tool to select individual points and adjust their curves by moving the directional points to tweak any new areas. There were some areas that we couldn't get right because there were simply too many anchor points to create the nice smooth curves we wanted. So, from the Pen Tool pop-up in the toolbar we selected the Delete Anchor Point Tool.

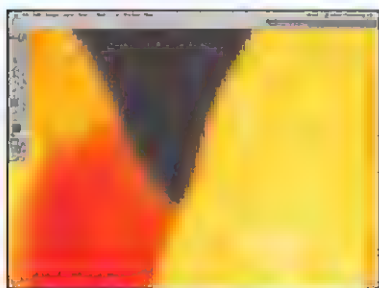
Remove extra anchor points to smooth out curves and convert smooth points to corners



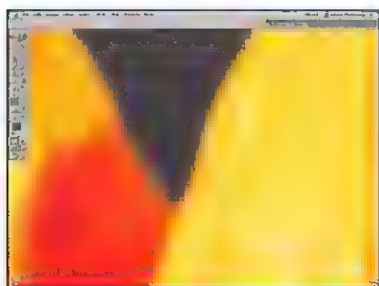
With the Delete Anchor Point Tool selected we moved the mouse pointer over the top of an unnecessary anchor point and clicked on it, which removed the point and filled in the remaining line segment. Then we used the Direct Selection Tool to select and adjust the directional points of the neighbouring anchor points so that the line segment hugged the curve.



Clicking and dragging to create the last part of the path made a number of smooth points. However, when we zoomed in closer we could see that in some instances a smooth point was not what we wanted. Some smooth points needed to be converted into corner points, so we selected the Convert Anchor Point Tool from the toolbox.



We held down the [Ctrl] key (on a PC), or [Command] key (on a Mac), to convert the Convert Anchor Point Tool to the Direct Selection Tool temporarily, and we clicked on the anchor point in question to select it and display its directional lines. Releasing the [Ctrl] key (On a PC), [Command] key (on a Mac), reverted to the Convert Anchor Point Tool.



Click and drag a directional line using the Convert Anchor Point Tool to change the point to a corner point. This also lets you move the directional points independently. Had we not previously selected the point with the Direct Selection Tool the directional points would not be available. Finally, clicking on the point itself with the Convert Anchor Point Tool converts the smooth point to a corner point.



Constraining

When you use the Pen Tool to create a path made up of straight line segments, if you hold down the [Shift] key it will only allow your points to be placed at 90 degree or 45 degree angles on the canvas. The same constraint applies when creating smooth points as well.



Curves

It is important to understand that the contour and shape of your curved line segments is determined by the positions of the direction points and direction lines. Any movement to these direction lines or points by the Direct Selection Tool will result in the re-shaping of your curved line segments.

Chapter 6

USING THE PATHS PALETTE AND VECTOR MASKS

In this chapter...

- ☐ Create, save and delete paths in the Paths palette
- ☐ Generate selections from your paths
- ☐ Create a new selection from an existing selection
- ☐ Fill and stroke existing paths
- ☐ Create a new path from an existing path and Vector mask

The Paths palette provides a wealth of path functions, from path storage and duplication, to creating selections. Paths in the palette can be used as vector masks on individual layers

Now that you know a little more about working with paths, you should understand that they reside inside the Paths palette, which offers a range of additional path options and features. Just like the Channels palette, there are a number of different aspects to the Paths palette. But most importantly, the palette acts as a place to store your paths and create new ones.

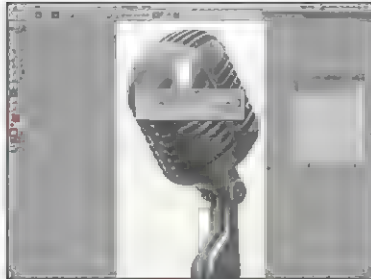
The palette buttons

There are a number of buttons along the bottom of the palette that you can use to create new paths, and to edit, duplicate and delete existing paths. There are also options that

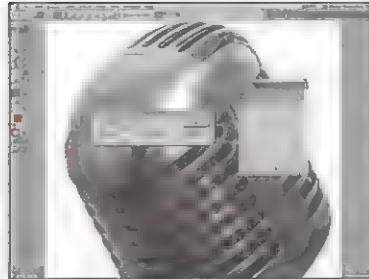
enable you to generate a selection from an existing path, or stroke or fill a path with a specified colour.

The palette menu

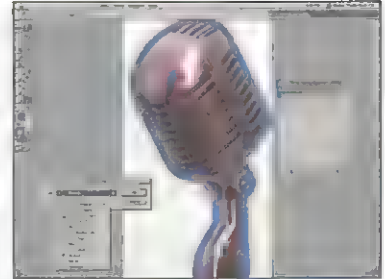
Again, like the Channels palette, the Paths palette also has a palette menu. As is often the case in Photoshop, there is more than one way to perform a function. The palette menu offers many of the same functions and options available at the bottom of the Paths palette – you can access these options via whichever route suits you best. However, there are a couple of unique features in the Paths palette menu – there's the option that



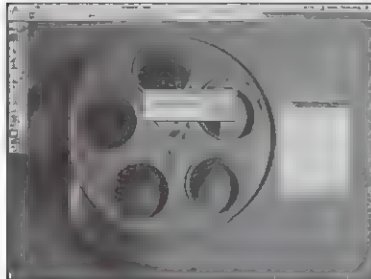
Page 74 Rename a temporary Work Path in the palette to avoid over-writing



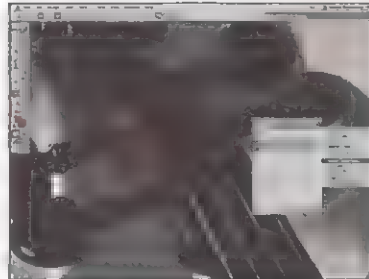
Page 77 Define an image shape in a layout program with the Clipping Path



Page 78 Create Fill and Stroke effects on pixels using your existing paths as borders



Page 79 Use an existing selection to generate a temporary Work Path



Page 81 Use multiple paths in the Paths palette to create and edit selections



Page 83 Use your existing paths to create editable vector masks

enables you to alter the palette display settings; and there's the Clipping Path option, which is an old but still very powerful feature that can be used to clip images when they are imported into page layout applications such as Quark XPress.

Vector masks

As we stated earlier, one of the main purposes of paths is to specify a precise border to isolate areas of the image. Closed paths are often used as the basis for selections. However, another powerful feature for using paths in this manner is creating a vector mask. A path can be used to clip or mask sections of a layer so

that only the layer content inside the path is visible. You can create a vector mask that shows or hides an entire layer, and then show or hide specific areas by creating paths. Or you can use any existing path in the Paths palette to clip a layer's content.

The perfect tool

Paths are terrific tools that have been around for a long time. Their functionality has been expanded in Photoshop 7.0, but the basics of what makes a path work hasn't changed. They don't take up much memory and their resolution independence makes them invaluable for manipulating images.

The Work Path

Take a look at the Paths palette when you draw with the Pen Tool – you'll see a temporary path



Work Paths

Photoshop 7.0 allows you to store one Work Path within your file. When you close and reopen a file, look in the Paths palette and you'll notice that the Work Path is still there. Older versions of Photoshop, like version 3.0 and earlier, would not preserve the Work Path automatically when you closed your file, so renaming your path was essential to make sure it was still there when you reopened the file.

When you create a Path for the first time in any image, open the Paths palette and have a look inside. What you will notice, as soon as you draw a single point, is that a new path is created automatically in the Paths palette, called a Work Path. The Work Path is automatically created as an area to store your temporary path data. Once you have finished working on a path and deselected it, the path disappears from view – it appears to have gone. But if you look in the Paths palette you will see that it is

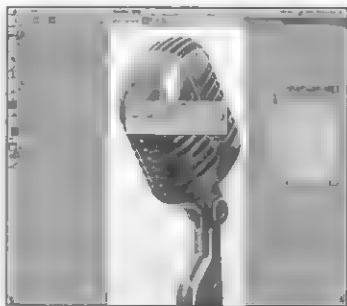
still there and it is called Work Path. Selecting the Work Path icon in the Paths palette will make it active and visible once more.

The Work Path is only a temporary path because Photoshop will replace it if it is inactive. If you have drawn a path and then deselected it, thereby hiding it from view, it will be stored in the Paths palette until you begin drawing another Path. Bear in mind, however, that as soon as you start to draw another Path, this creates a new Work Path automatically, which replaces the previous one.

PRESERVE THE WORK PATH

You can prevent your temporary path being replaced

By default, a Work Path is a temporary path, replaced each time you begin to draw a new path. But what about all of the times when you want to preserve your Work Path? There is a way to save the path and that is to simply rename it. Renaming a path saves it in the Path palette as something other than the Work Path. That way, with your saved path deactivated and hidden, when you begin to draw a new path, a new Work Path is created in the Paths palette in addition to your existing named path. To rename a Work Path, double-click on the path icon in the paths palette. A Save Path dialog box opens, which allows you to rename it.

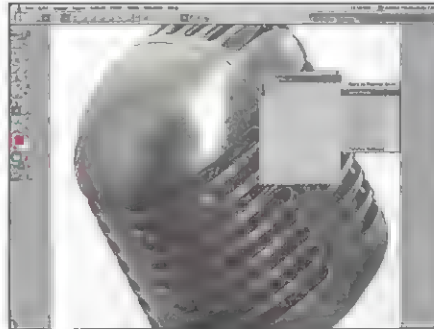


Double-click the Work Path in the Paths palette to open the Save Path dialog box. Then rename and save your path.

Creating and managing paths

The Paths palette is the home of everything you need to create, duplicate and delete paths

The Paths palette is where your paths are created, stored and managed. The palette offers two ways of accessing many of its functions – the Paths palette menu and the buttons along the bottom of the palette. There are three essential functions that must be available to work effectively with Paths. The first is the ability to create a new path – not just a Work Path, but a permanent path that won't overwrite existing paths in the Paths palette. The next is the ability to duplicate a path and alter the duplicate while



The useful function of creating a new path in addition to any existing paths is found within the Paths palette menu.

preserving the original. And the third is the ability to discard paths once you have finished with them.



Convert a Work Path

In addition to double-clicking on a Work Path to rename and save it, there is another way to do this without accessing the renaming dialog box. Simply click on a Work Path and drag it onto the 'Create new path' button at the bottom of the Paths palette. This will automatically rename and convert your Work Path.

CREATE, DUPLICATE AND DELETE

TO CREATE A NEW PATH you can click on the 'Create new path' button. Or you can select New Path from the Paths palette menu. If you select New Path from the Paths palette menu you are prompted to name the path before it is added to the Paths palette. What a tongue-twister!

TO DUPLICATE A PATH you can click on an existing path in the Paths palette and drag it onto the 'Create new path' button. Or you can select the path in the Paths palette and choose Duplicate Path from the Paths palette menu. Just like when you create a path using this method, you are prompted to name it first.

DELETING A PATH can be done by selecting a path in the Paths palette and clicking the trash can icon at the bottom of the palette, or by choosing Delete Path from the Paths palette menu. Alternatively you can simply click on a path and drag it onto the trash can button.



Paths versus Channels

The main thing that increases file sizes in Photoshop is pixel data. Adding alpha channels to store selections can quickly increase your file size. Vectors take up much less disk space than pixel data. As a result it is a good idea to try and store simple selections as Paths whenever you can.

Naming paths

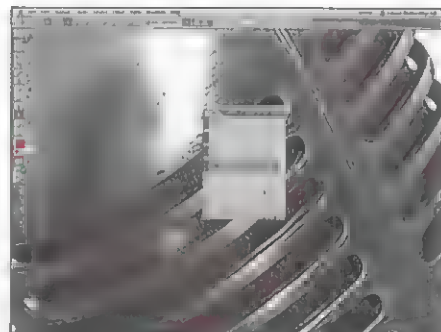
Like layers and alpha channels, with or without the default settings, every path needs a name



Path positions

Like alpha channels in the Channels palette, the positions of your paths are not fixed. You can click and drag on any path icon and drag it up or down within the Paths palette to change their order.

Every path in the Paths palette has an icon and a name, and these are crucially important in differentiating one path from the next. By default, when you create a temporary path, Photoshop names it 'Work Path'. It is the renaming of the path itself that gives it a permanent residence in the Paths palette. When you create a new path in Photoshop, the default name is Path 1. If you leave this set to Path 1 and then create a second path, its name will be Path 2, a third path will be called Path 3, and so on. This is because



We converted our initial Work Path to a named path called Path 1 by default. Every path created after is automatically named sequentially.

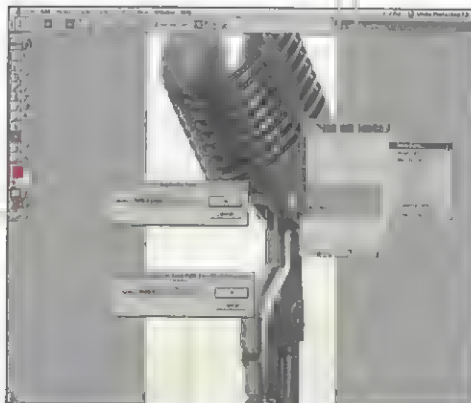
unless you rename your paths, Photoshop will simply number them sequentially by default.

NAMES AND THE PATHS PALETTE

By default, Photoshop will name new paths in sequence, starting with Path 1, then naming the next path Path 2 and so on.

When you choose Duplicate Path from the palette menu this dialog box will appear. Duplicate paths, by default, have the word 'copy' added to the end of their existing name.

When you double-click a Work Path icon, this dialog box pops up, allowing you to rename it. The default name appears in the field initially.



Any path in the Paths palette can be renamed at any time by simply double-clicking on the existing path name and changing it.

When you begin drawing with the Pen Tool a temporary path is automatically created in the Paths palette named Work Path.

The 'Create new path' button will create a new path and automatically use the default naming method. You are not prompted to name the path first.

Fill and Stroke

There are two functions in the Paths palette that treat your paths like selection borders

When we talk about path borders acting like selection borders we are talking about the integration of pixels into vectors. What happens with both the Stroke and Fill Path functions is that an effect is being performed on a group of pixels, and the edges of that group of pixels are defined by the current path. This is interesting to note because generally to affect pixels you would need to generate a selection from your path and then edit the pixel-based contents of the selection. However, with the Stroke

and Fill options this is not the case. To employ either function, select a path in the Paths palette and choose either Stroke Path or Fill Path from the Paths palette menu. The Stroke Path function enables you to select from an alarming number of different tools to add a stroke around your path using the current foreground colour. The Fill Path option lets you fill the inside of the selected path with a specified colour or pattern as well as specifying the blending mode. You can even enable Anti-aliasing and Feathering.



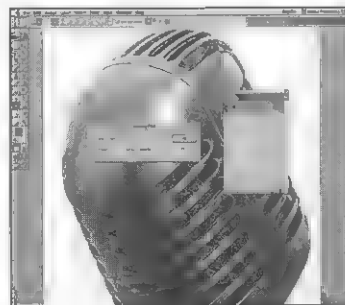
Flatness value

If you leave the Flatness value blank, the PostScript device's default value will be used. However if the results aren't good or you encounter errors, try entering a value. You can enter a value from 0.2 to 100. The lower the number, the more straight line segments used, and the smoother the curve.

CLIPPING PATH

Use a path to define an image border for page layout programs

Specifying a path as a Clipping Path in the Paths palette is used to import your work into a page layout program such as Quark XPress. A Clipping Path allows you to isolate a section of an image, so that only the enclosed area appears when the image is imported into a page layout program – all areas outside the clipping path are not visible. When a file's output from a page layout program to a PostScript device, the curved segments defined by your paths are converted to a series of linked, straight-line segments. The flatness setting in the Clipping Path dialog box controls the number of straight lines used to draw the curve.



The Clipping Path function in the Paths palette menu allows you to specify which path to use.

Using the Paths palette

Rename the Work Path, use Stroke and Fill and export your work with the Clipping Path



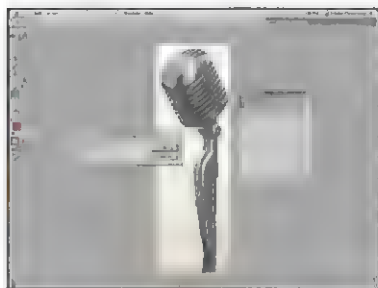
Clipping Path

Worry not if your memory falls you at times. If you find yourself reopening an image and you can't remember if you specified a Clipping Path, and if so, which path it was, there is a quick way to tell. Simply have a look in the Paths palette. Any path that is specified as a Clipping Path will have its name displayed in outlined text.

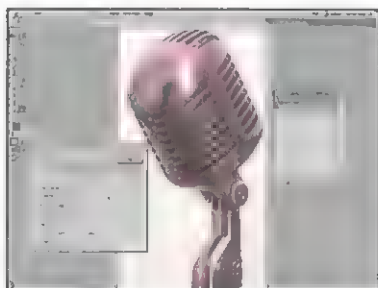


Stroke options

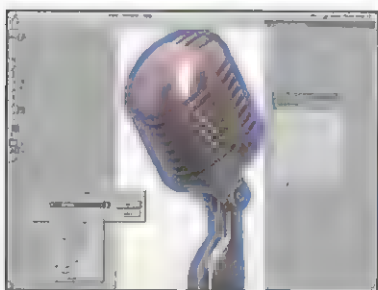
There are some things that you need to think about before you choose the Stroke Path option from the Paths palette menu. You need to specify the foreground colour if you are going to use a paint tool, and also you will need to specify any tool options like mode, opacity or brush tip shape. These options will be used when you select a tool from the Stroke Path options, and cannot be edited at this point.



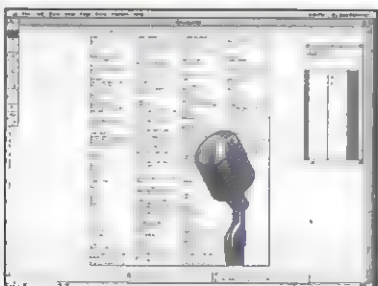
Here we selected the Pen tool from the toolbar and carefully drew a closed path around the microphone in the image. In the Paths palette, the path we drew appears in the form of a temporary Work Path. To make a permanent path from the Work Path we double-clicked the path icon and renamed the path.



We used the Eyedropper tool to sample a red foreground colour from the microphone. Next, we selected our new path in the Paths palette and chose Fill Path from the Paths palette menu. In the dialog box we specified the foreground colour with a colour blending mode, an Opacity setting of 100% and enabled Anti-aliasing.



Next, we selected the Brush tool and specified a large soft brush tip. Then we selected a bright blue foreground colour from the picker, and with the current path still selected in the Paths palette, we chose Stroke Path from the Paths palette menu. In the Stroke Path dialog box we chose the Brush tool from the list in the pull-down menu.



Finally, with the current path still selected, we chose Clipping Path from the Paths palette menu. We specified the microphone path and left the flatness value blank. After saving the image file in tiff format we imported it into a page layout in Quark XPress. Here you can see the results of the Clipping Path.

Selections from paths

Most Photoshop users create paths for one reason only – as a basis for a selection border

Most selection tools rely on mouse movements for their edges. Using the Lasso tool – or even a brush in Quick Mask mode – are ideal for irregular, soft, or odd-shaped selections, but when it comes to precise linework and smooth curves you cannot beat what can be accomplished with paths and vector drawing tools. In addition to providing the necessary tools to draw the areas to define as selection borders, paths also provide a storage space for these selection borders like alpha channels do. The primary

thing to consider is that paths are ideal for simple, precise, sharp selections – not soft edges or graduated tones that are better suited to alpha channels. By now you won't be at all surprised that there is more than one way to generate a selection from a path. To accomplish this task you will need to select a path and then either click on the 'Load path as a selection' button at the bottom of the Paths palette or choose Make Selection from the Paths palette menu for more selection options.



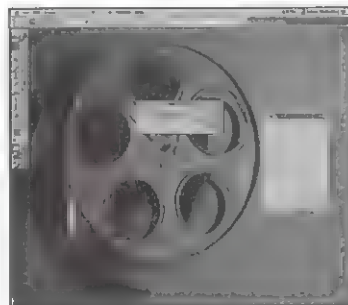
Make it Work

The Make Work Path option is not without its limitations. First of all it will remove any feathering that has been previously applied to the selection. And it may also affect the actual shape of the selection depending on its complexity. So, in instances when precision is crucial, it may be best to draw your own Work Path.

PATHS FROM SELECTIONS

Doing it the other way around is also an option

The majority of users create paths as a basis for a selection. But there may be the odd occurrence when you want to do things backwards. You may have a selection active that is not currently stored as a channel or would be an excellent shape to create a path from, and store and edit using the Paths palette. For these instances, it is possible to create a temporary Work Path based on an active selection border. All that you need to do is, with your current selection active, choose Make Work Path from the Paths palette menu. Enter a Tolerance value from 0.5 to 10 pixels to determine sensitivity to changes in the selection shape.



Enter a Tolerance value and click OK, and a Work Path based on the active selection appears in the Paths palette.

Selections from multiple paths

The Make Selection function lets you generate complex selections using more than one path

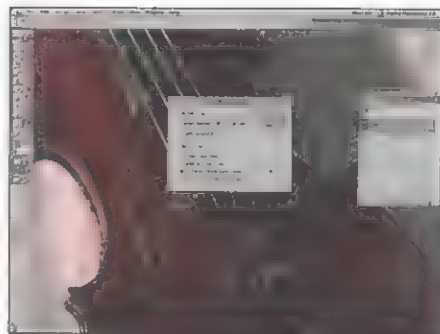


Fill and Stroke buttons

In addition to being available in the Paths palette menu, the Fill Path and Stroke Path operations can also be accessed via their respective buttons at the bottom of the Paths palette. It may be quicker to access the functions this way but using the Paths palette menu provides you with more options like blending modes and tool choices.

It is possible to alter an existing selection by using a selection generated from another path. There are a number of different options to enable you to do this in the Make Selection dialog box in the Paths palette menu. What's more, you aren't limited to using just two paths together. You can keep altering the selection using as many paths as you like, one at a time.

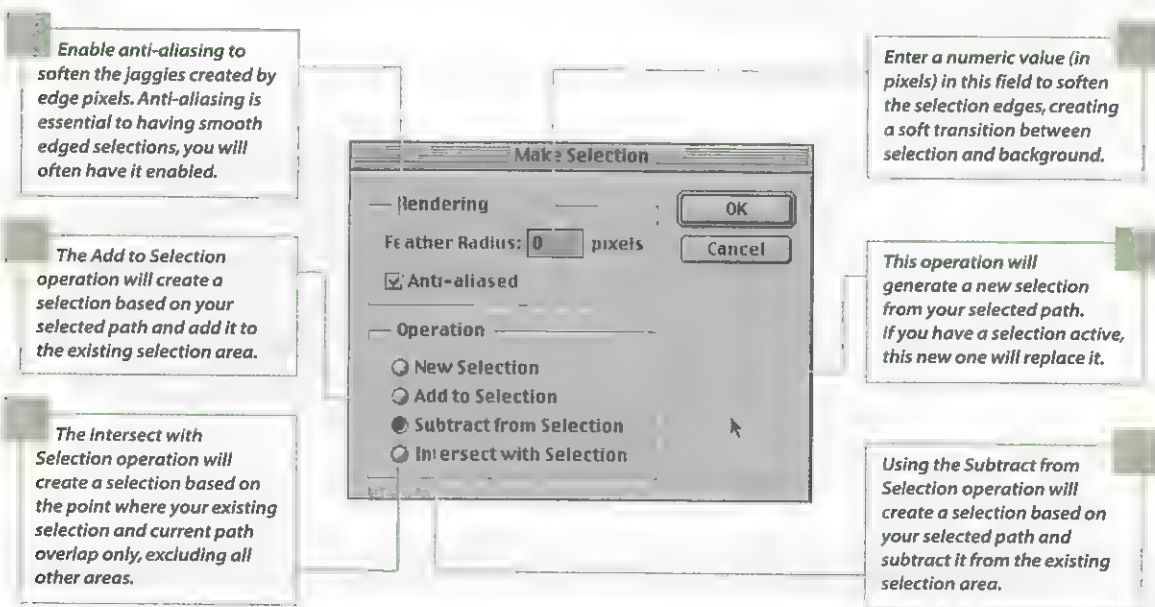
You'll find that Make Selection offers a variety of functions that are similar to those that appear in the tool options bar when you use the



The Make Selection options in the Paths palette lets you alter an existing selection by using as many different paths as you like at one time.

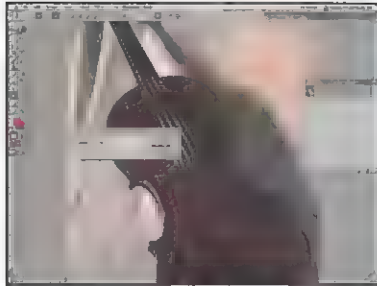
Selection Marquee or Pen tool. Take a look at the diagram below for an tour of the most important options.

MAKE SELECTION OPTIONS



Path-based selections

The most common use of paths is to generate and alter selections

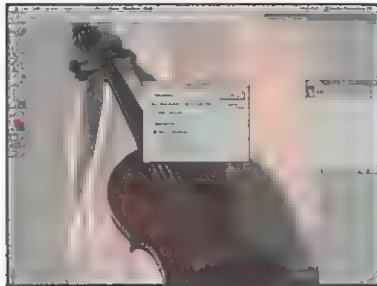


Here we selected the Pen Tool from the toolbar and carefully drew a closed path around the outside of the violin. The new path appeared as a temporary path in the Paths palette. To make it permanent, we double-clicked on the path icon and entered a name for the path in the field.

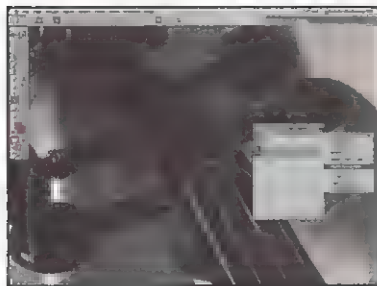


Generating a selection

There is an alternative way to generate a selection from a path without using the buttons at the bottom of the Paths palette or using the Paths palette menu. All you need to do is hold down the [Control] key (PC) or [Command] key (Mac), and click on a path icon in the Paths palette to generate a selection from it.



We clicked on the new path's icon in the Paths palette to select it. Then, from the Paths palette menu we chose Make Selection. We enabled Anti-Aliasing and used the New Selection operation. This created a selection based on the new path we had just drawn. With the selection active we zoomed in to the top of the violin.

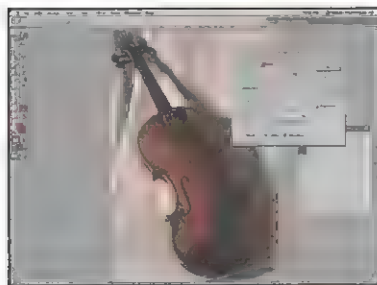


Using the Pen Tool, and with the current selection active, we drew closed paths around the areas between the keys and the neck of the violin. As we began to draw, a new Work Path appeared in the Paths palette. When we finished the closed paths, we selected the Work Path in the palette and then chose Make Selection from the Paths palette menu.



Adding to a selection

There's also a keyboard shortcut that lets you add to a selection. With an active selection hold down the [Control]+[Shift] keys (on a PC) or [Command]+[Shift] keys (on a Mac), and click on a path icon to add this path selection to your current selection.



In the Make Selection dialog box we chose the Subtract from Selection operation and clicked OK. This subtracted the selected path from the already active selection, removing a couple of unwanted areas from the selection. With the violin selected and not the background we used Image > Adjustments > Selective Color from the menu to alter its colour.

Vector Masks

Use existing paths from the Paths palette as vector masks to hide areas of layer content



Subtracting from a selection

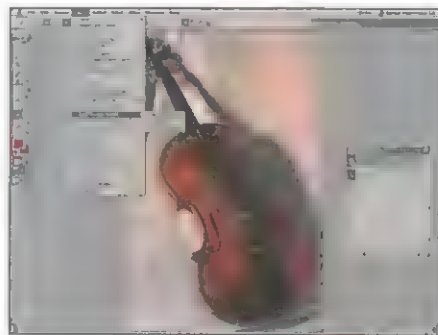
Like adding to a selection, there is also a keyboard shortcut to subtract from a selection. With an active selection, hold down the [Control]+[Alt] keys (on a PC), or [Command]+[Option] keys (on a Mac), and click on a path icon to subtract this path selection from your current selection.



Duplicating and Deleting

There is another way to duplicate or delete existing paths in the paths palette without using the buttons at the bottom of the palette or the Paths palette menu. Simply hold down the [Control] key (Mac), or right-click (PC), and click on a path. A pop-up menu will appear allowing you to duplicate or delete your path, as well as perform other operations.

In addition to using pixel-based data to mask your layers, you can use vector-based data. Your paths can be used directly, without being converted to selections, to mask or clip the contents of your layers in the Layers palette. Vector masks are ideal when you need a perfectly smooth curve, straight line, or any other hard-edged shape to mask the contents of your layer. When your layer is selected, the path used to define the vector mask becomes visible and can be edited. It also becomes visible in the Paths palette, where you'll find



In the menu, when you choose Layer > Add Vector Mask, you will see the three options for masking your current layer.

three options for adding a vector mask to your current layer, under Layer > Add Vector Mask in the palette menu.

VECTOR MASK OPTIONS

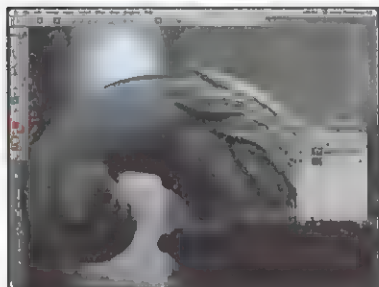
REVEAL ALL will create a vector mask on the current layer that reveals all of the current content on that layer. If you use the Pen Tool to create a closed shape within the active vector mask, you will see that the area defined by the closed shape is the only area that becomes visible – the rest is hidden. It is possible to create other closed shapes in the same mask to reveal other areas.

HIDE ALL is the direct opposite of the Reveal All option. When you choose this option a vector mask is created that hides the entire layer. However, adding closed shapes to this mask has the exact same effect, revealing only the areas inside the shapes.

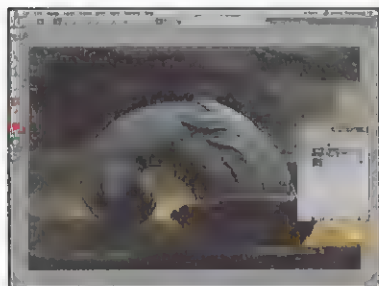
CURRENT PATH is the last option and is only available when you have a path selected in the Paths palette. It will create a vector mask that reveals the area within the closed path and hides the outside areas.

Using Vector Masks

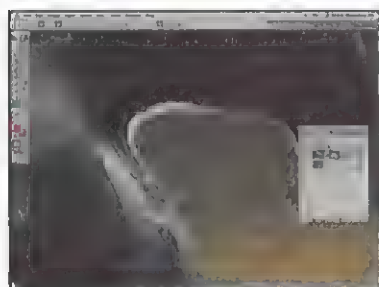
Use vector masks to hide and reveal selected areas of pixel-based content on your layers



Here we have a file consisting of two layers. The bottom layer has a sky scene to be used as the background, and the top has a piece of architectural detail, which we'd like sitting against the sky background. So the first thing we need to do is use the Pen Tool to draw a closed path around the piece of detail.



When the path is completed, it still needs to be visible on the screen and selected in the Paths palette. In the Layers palette we selected the top layer and then chose Layer > Add Vector Mask > Current Path from the menu. The vector mask hides all areas that lie outside of the current path, showing the layers underneath.



When you look at the layer and vector mask closer by zooming in, you'll notice that there are still areas of the background showing on the top layer. We drew the path a little too wide in a couple of areas and it needs to be fixed. We used the Direct Selection Tool to select and move individual points of the path, as we move a point you can immediately see the results in the vector mask.



The last thing noticeable is that the piece of detail is floating; it needs to be lower down in the image so that the bottom runs off the bottom of the canvas. We used the Move tool to drag the layer contents down in the image. The vector mask moves with the layer contents because by default, the mask is linked to the layer.



Removing a mask

If you decide that after you have created and/or edited a vector mask that you simply do not want it anymore, there is a way to remove it. Select the layer mask icon and drag it to the Trash in the Layers palette, or select the layer mask icon in the Paths palette and drag it into the Trash there. Either way will work.



Hiding the mask

There may be instances when you would like to temporarily see some of the layer content that is hidden by your vector mask, but you don't want to discard the mask itself. There is a way to temporarily disable a vector mask: hold down the [Shift] key and click on the vector mask icon in the Layers palette to disable it. A red X will appear over the mask icon. To enable the mask once again hold down the [Shift] key and click on it, the red X will disappear.

WORKING WITH SHAPES AND SHAPE LAYERS

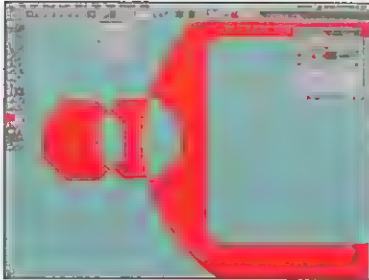
Like paths, shapes and shape layers cross over from pixels to vectors, working independently of your image resolution. But unlike paths, they can also take advantage of layer technology

Admittedly, vectors have been an integral part of Photoshop in the form of paths for many, many years. However, it was the advent of 'shapes' in Photoshop 6.0 that caused a lot of users to draw comparisons to tools native to Adobe Illustrator. For many years, advanced users had been taking advantage of shape technology before it was integrated into Photoshop by using Illustrator and Photoshop together at the same time, creating and editing advanced and detailed vector shapes in Illustrator, then dragging them or pasting them into the Paths palette within Photoshop. It was a roundabout approach, involving

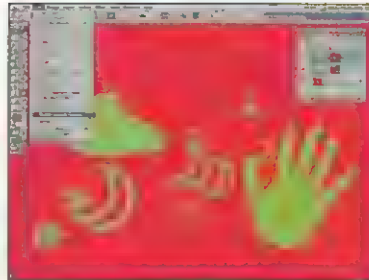
careful allocation of available memory, but it worked. And quite frankly it was all that we had... until Photoshop 6.0 came along.

Shape tools

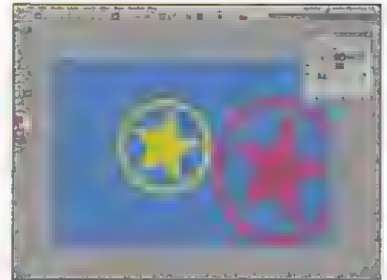
With the introduction of the Shape tools into Photoshop came an impressive array of new features. The Shape Tool pop-up menu in the main toolbar, next to the Pen Tool button, contains everything you'll ever need to create vector shapes. There are basic shape creation tools like rectangles, rounded rectangles and ellipses. Then there are some slightly more flexible and advanced tools like the Polygon and Line tools.



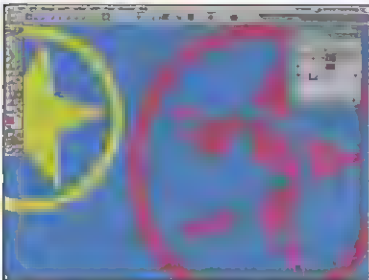
Page 91 Explore shape creation tools and settings in the Geometry Options



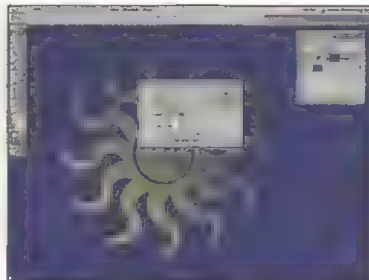
Page 92 Create and save a shape then call it up later on to use again



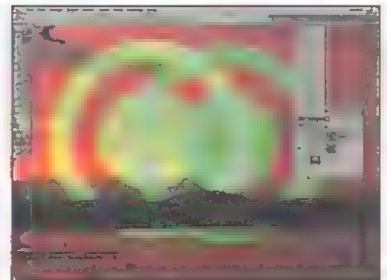
Page 93 Access saved and preset shapes from the Custom Shape Picker



Page 93 Use the Subtract function to remove one custom shape from another



Page 95 Alter the fill content of existing shape layers using different options



Page 97 Combine align functions with shape layer blending options

Finally, you have the best Shape tool of all: the Custom Shape Tool. This provides an impressive selection of shapes from the library and allows you to save your own wild vector shapes for later use.

Shape Tool options

Like every tool in Photoshop, the Shape Tool has a number of options that affect the way it operates, giving you the opportunity to deviate from the obvious, producing varied and interesting results. Every shape, as basic as a rectangle or as complicated as a custom shape, has individual options particular to that shape, located in the Geometry

Options section of the tool options bar. In addition to individual options, there are common options for the various shapes such as Presets, Mode Controls and all of the standard Add, Subtract, Intersect, Isolate and Overlap functions.

You can also use the shape creation tools to create 'shape layers' in Photoshop. A shape layer is basically nothing more than a solid colour fill layer with a vector mask applied to it. Like a 'fill layer' it is colour only, and the vector mask constrains the colour fill to a boundary created by a shape. And as with all vector-based items, you can alter a shape layer without affecting image resolution.

Creating a shape layer

Like creating a path, creating a shape layer employs a very similar logic

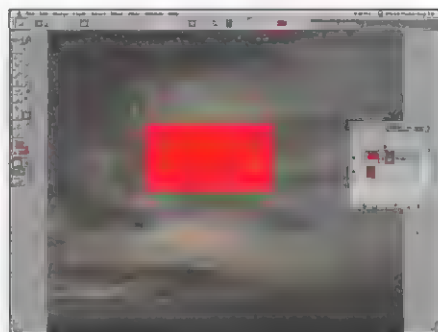


Naming shape layers

When you create a new shape layer, it is named Shape 1 by default. Like paths, shape layers are named sequentially – the next layer you create will be called Shape 2 and so on. To rename a shape layer, double-click on the layer name in the Layers palette to highlight it, then enter a new name. Or choose Layer Properties from the Layers palette menu and enter a new name in the text field.

Shape tools can be used to create paths as well as shapes, with the help of the tool options bar.

Click the first button in the tool options bar (just right of the Tool Preset Picker) to specify that your Shape tool, when used, will create a shape layer and not a path or a filled pixel area. With your specified Shape tool now chosen from the toolbar, click and drag on the image window. This will create a shape layer based on what you have drawn with the Shape tool. In the Layers palette you'll see your new shape



We selected the Rectangle tool and clicked and dragged on the image – a new shape layer was created using the current foreground colour.

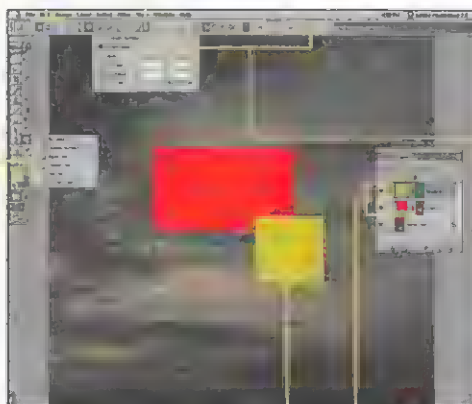
layer appear. The newly created shape will be coloured using the current foreground colour.

SHAPE LAYER COMPONENTS

This is where you specify whether your chosen Shape Tool creates a shape layer, a path or a filled pixel area.

The Shape Tool pop-up menu has a number of different shape options to choose from, from basic rectangles to complicated custom shapes.

Your current shape layer's defining path border remains active and you can use the Direct Selection Tool to edit.



The Geometry Options in this pop-up menu will vary depending on which Shape Tool you selected from the toolbar or tool options bar.

There are more shape layer options like Add/ Subtract/ Isolate functions and Styles. There's also the ability to change the fill colour, and the ability to change properties of new or existing shape layers.

When you draw with the Shape Tool and the shape layer option enabled, a new shape layer is created in the layers palette using your current foreground colour.

Editing shape layers

Shape layers are Solid Color fill layers with vector masks, so they are fully editable

A shape layer is made up of two parts – the solid color fill layer and the vector mask. The shape layer's mask is very useful because it acts like a vector mask that you can apply to any layer – it's therefore completely editable. Once you have selected your shape layer in the Layers palette, you will see a path surrounding the shape, defining its border. If you use the Path Selection Tool to click on the shape, you will select the entire shape and be able to move it around the image within your shape layer mask. The Direct

Selection Tool will enable you to select individual anchor points or line segments within your shapes and edit them, and therefore alter the shape itself.

Because shape layers are made up of fill layers and vector masks, you can edit the mask just as you would a path. If you select the Pen Tool from the toolbar, with the Auto Add/Delete function enabled, you can click on line segments to add points or click on anchor points to delete existing anchor points, altering the shape as you wish.



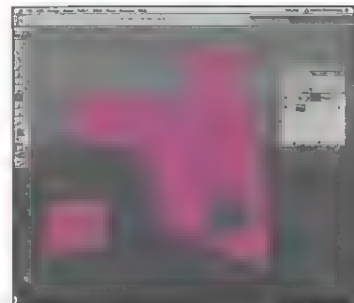
Path Selection Tool

If you have created a number of shapes, there's a quick way to select the one you want to work with. Using any of the Shapes Tools, hold down [Control] on a PC or [Command] on a Mac. This temporarily selects the Path Selection Tool, and you can then simply click on your chosen shape.

ADDING AND SUBTRACTING SHAPES

It is possible to add to, subtract from or alter your shape layers

Just like the Marquee and Pen tools, there are a series of buttons that allow you to perform boolean functions to your shape layers. By default, when you draw with a Shape Tool, the 'Create new shape layer' button is pressed, meaning that each time you use the tool, a new shape layer is created. When an existing shape layer is active, the other buttons allow you use the Shape Tool within your existing shape layer, to alter the vector mask. One button allows you to add to your shape area, and another lets you subtract from it. A third button allows you to see only areas where two shapes intersect, while yet another that hides that area.



A shape layer can hold multiple shapes, which can be edited individually using the Direct Selection Tool.

Shape tools

Shape tools can create basic rectangular shapes and give them rounded edges



Adding squares

If you hold down the [Shift] key while drawing a rectangle using the unconstrained option, it will automatically draw a square. If you continue holding down the [Shift] key and draw another square, the 'Add to shape area' function will be enabled, and another square will be added to the first on your current shape layer.

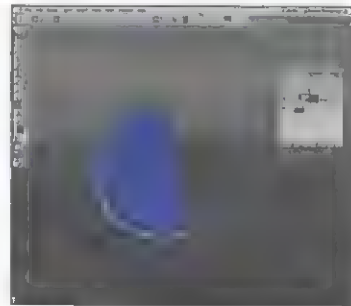
The first two options in the Shape Tool pop-up menu are both rectangular shapes – the basic rectangle and the rounded rectangle. Both tools share the same set of tool options. The tool options are accessed via the Geometry Options button in the tool options bar. When you look at the options you'll see that, by default, Unconstrained is enabled. This function allows you to draw a rectangle using any height to width ratio. The next option, Square, creates perfect squares when you use the rectangle tool. The third option, Fixed

Size, allows you to specify the exact size each rectangle you draw will be. The Proportional option lets you specify a width-to-height ratio that is preserved, regardless of the size of your rectangle. There is also an option that allows you to create rectangles from the centre out, as opposed to starting from a corner. The final option allows you to specify whether or not your rectangles automatically snap to image pixels. The Rounded Rectangle has a Radius box in the tool options bar that lets you specify the radius of the rounded corners.

THE PEN TOOL

The Pen Tools are great for creating shape layers, not just paths

Just because you are creating shape layers, you're not limited to drawing tools that only create basic shapes. The Pen Tool and the Freeform Pen Tool are terrific drawing tools, and since they are vector tools, you can use them to create shapes. The great thing about using the Pen tool or the Freeform Pen Tool is that you can draw any shape you desire, without being limited to any specific pre-defined shape as a starting point. In order to create a shape layer using the Pen or Freeform Pen Tool, all that you need to do is select the tool from the toolbox and make sure that you have the Shape Layers option selected in the tool options bar.



We've selected the Pen Tool and begun to draw a shape layer – the shape fills itself with colour as we draw.

Ellipses and Polygons

These two slightly more complex shapes are more versatile, adding interest to shape layers

The Ellipse and Polygon tools can add some interesting variety to your shape layers. The Ellipse Tool lets you generate curved shapes and exact circles. The Polygon Tool allows you to create multi-sided shapes as well as customized star shapes. The Ellipse Tool is part of the Rounded Rectangle Tool in the Shapes tool pop-up in the toolbar. The Geometry Options for the Ellipse tool are quite similar to those provided for the Rectangle tool. There are the same Proportional, Fixed Size and From Center options.

The main difference is that, in the case of the Ellipse Tool, the option to create perfect squares is replaced by an option to create perfect (you guessed it) circles. The Geometry Options for the Polygonal Tools follow an entirely different set of rules. Here, you can decide whether the tool creates stars or multi-sided polygons. You can specify the number of sides for your polygons and even round-off the corners by a specified radius. If you use the star option, you can also specify the percentage of your indents and smooth them too.



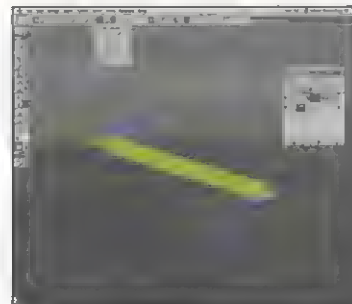
Shapes and Elements

If you are using Photoshop Elements, you've probably noticed that there is no Paths palette. However, there are shape layer tools. It is a bit strange to have shape ability without Paths palette access. There is no Direct Selection Tool to edit your shapes either. If you really want to have all of the flexibility required to use shapes to their full potential, consider upgrading to Photoshop 7.0, or the brand new CS version.

THE LINE TOOL

An unusual tool that is used sparingly in Photoshop work

At first glance it may seem difficult to know what the Line tool is for. But when you want to create a shape layer that consists of not much more than a line, with perhaps some arrow tips, this tool will do just fine. In older versions of Photoshop the line tool was a pixel-based tool, where you could specify its width in pixels. Clicking and dragging with this tool creates a line shape. You can specify the weight of the line in the tool options bar. In the Geometry Options for this tool, you can add some arrowheads to the beginning and/or end of your line. You can specify the size of the arrowheads as well as their concavity if you want to.



The Line Tool specifies start and end arrows for a vector line shape. Arrowheads remain until we change settings.

Using shape layers

An example of what can be achieved easily, using basic Shape tools and boolean functions



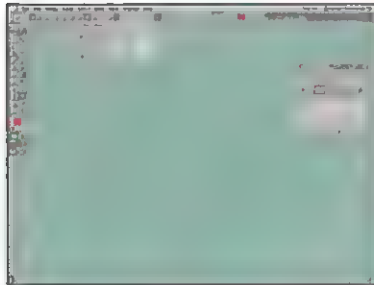
Target shape

When working on a shape layer you can see which shape layer is targeted, because in the Layers palette there is an outline around the vector mask icon. When this shape layer is targeted and Add/Subtract/Intersect, (etc) functions will be applied to it. If you click on the vector mask, the outline is removed and this target is dismissed, after this, any functions or shapes are applied to a new layer.

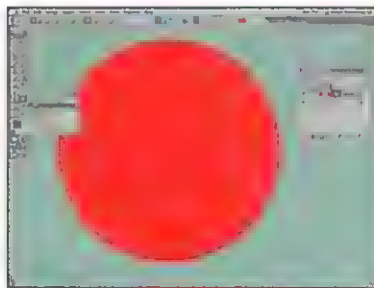


Hide path outline

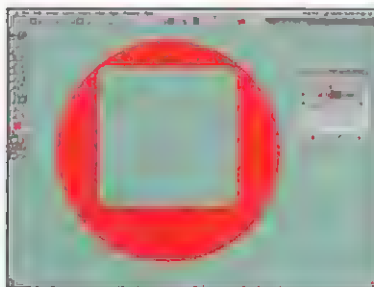
There will be occasions when working with shape layers, when you don't want to view an active layer's path outline. Clicking on the layer's mask, dismissing the target, will hide the path outline. Or you can direct your attention to the Paths palette. In the paths palette, click anywhere other than on the selected shape layer mask path icon and although your layer will still be selected, the path outline will be hidden from view.



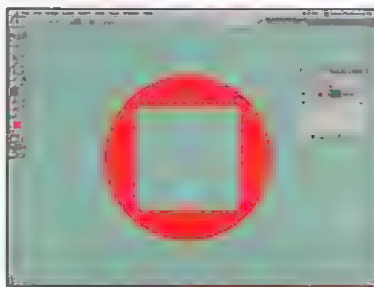
We created a new file with a light blue canvas. We clicked on the foreground colour swatch to open the Color Picker and chose a bright red foreground colour. Next, we selected the Ellipse Tool from the Shape Tool pop-up menu in the toolbar. In the Geometry Options we enabled the Circle option, and checked the From Center checkbox.



We clicked and dragged on the canvas. A perfect circle was drawn outwards from the centre. A shape layer appeared in the Layers palette called Shape 1. We double-clicked on the layer name in the Layers palette and renamed the layer 'red circle'. Next, we selected the Rounded Rectangle tool from the Shape Tool pop-up menu in the toolbox.

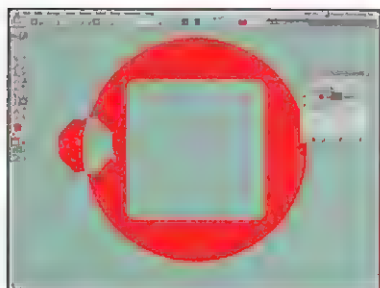


Again, we made our way to the Geometry Options, this time for the Rounded Rectangle, and selected the Square option. In the tool options bar we specified a corner radius of 50 pixels, and clicked on the 'Subtract from shape area' button. Then we clicked and dragged, from top-left to bottom-right, to create a rounded square inside the circle on the same shape layer.

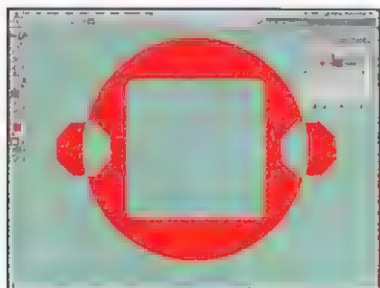


The rounded rectangle shape is off-centre. So we chose the Path Selection Tool from the toolbox and clicked on the path surrounding the rounded rectangle to select it. We moved the shape towards the centre of the circle. Since this shape has a Subtract function applied to it, no matter where you move it on this layer, it will be subtracted from the other shape when overlapping.

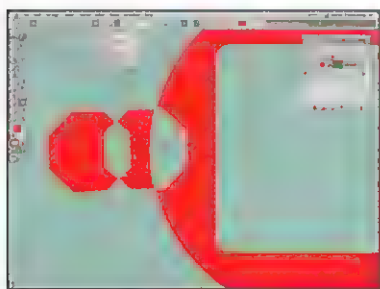
Create interesting effects using more complex shapes and different boolean functions



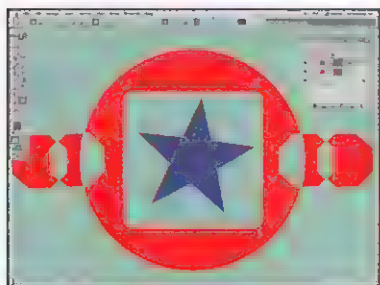
We selected the Polygon Tool from the Shapes Tool pop-up menu. In Geometry Options for the Polygon Tool we disabled everything – we just wanted a basic polygon. In the tool options bar we specified eight sides and clicked the 'Exclude overlapping shape areas' button. Then we clicked and dragged to draw a polygon that overlaps the left of our shape.



Then we chose the Path Selection Tool from the toolbar. Holding down the [Alt] key (PC) or the [Option] key (Mac), we clicked on the polygon and dragged it (creating a copy of the shape) to the other side of the shape. It is interesting to note that the copy still adheres to the 'Exclude overlapping shape' function specified in the original polygon.



We followed the same procedure to create some more polygons and moved them out from the centre. Note how the 'Exclude overlapping areas' function works for all shapes on the layer, not just shapes that overlap the initial shape. We selected the Polygon Tool, and in the Geometry Options we enabled the Star option. We set the Indent Sides function to 50%.



In the tool options bar we set the number of sides to five and clicked on the 'Create new shape layer' button. From the Color Picker we specified a bright blue foreground colour. We clicked and dragged on the canvas using the new settings to create a new shape layer that sat over the other layer, containing a five-pointed blue star.



Shifty circles

When you are using the Ellipse Shape tool with all of the Geometry options disabled, direct your attention to the [Shift] key. If you hold down the [Shift] key and draw an ellipse, it will create a perfect circle. If you hold down the [Shift] key and draw a second ellipse, it will draw a perfect circle and it will add it to the existing shape.



Tool options bar

When you choose a Shape Tool from the Shape Tool pop-up menu in the toolbar, you'll notice a number of shape options appear in the tool options bar across the top of the workspace. One handy little feature is a set of options for switching from one Shape tool to another, without having to go back to the toolbox. The Pen and Freeform Pen tools are also included here.

Custom shapes

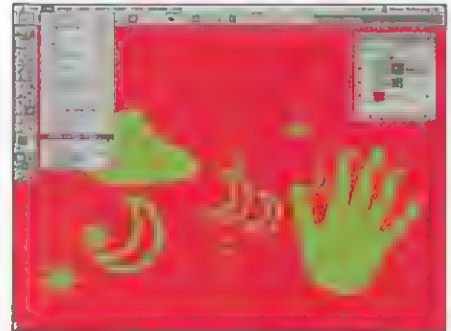
Save the complex shapes you worked so hard to create, and reuse them again at any time



Define a custom shape

Rather than bothering with the Edit menu, there is a quicker way to define a custom shape. After you draw a shape, with the current Shape Tool still selected, right-click (PC) or hold down the [Control] key and click (Mac), on the shape. A pop-up menu will appear, select Define Custom Shape from the menu.

When you have spent some time creating a rather complicated shape made up of various paths and different boolean functions, you may want to save it to use again later on. The Custom Shape Tool is the key to storing and reusing your shapes. The Custom Shape Tool is the last tool in the Shape Tool pop-up menu in the toolbar. When you select the Custom Shape Tool from the toolbar, a Custom Shape Picker appears in the tool options bar. When you click on the triangle to open the picker, you



If you select a shape and then choose Edit > Define Custom Shape from the Shape pop-up menu it will add it to the list of preset shapes.

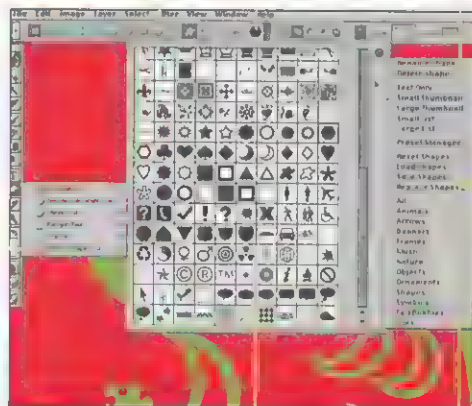
can access all the preset shapes available. Select a preset and click and drag to draw using that shape.

CUSTOM SHAPE OPTIONS

The thumbnail icon of the currently selected preset shape is visible in the tool options bar, saving you from having to check in the pull-down menu.

The Custom Shape Tool can be found in the Shape Tool pop-up menu, or in the tool options bar when you have a Shape Tool selected.

All of the currently loaded preset shapes that you can choose from appear in the pull-down of the Custom Shape Preset Picker.



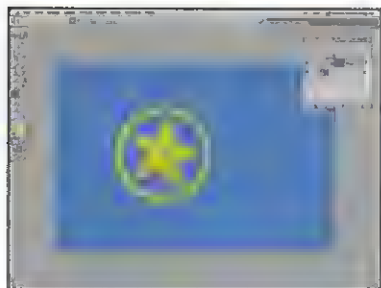
You can rename or delete any shape in the Preset Picker. There are also options to affect the way that the presets are displayed.

Here you can affect the current shape library. Reset the current shapes, load a new set, or save the current group of preset shapes.

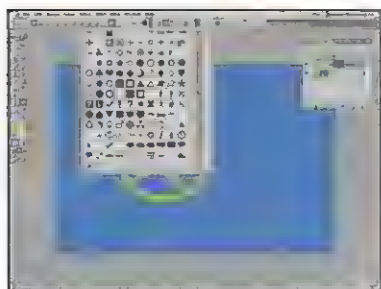
There is no shortage of preset shapes available in Photoshop, select a library from the list or simply view them all.

Using custom shapes

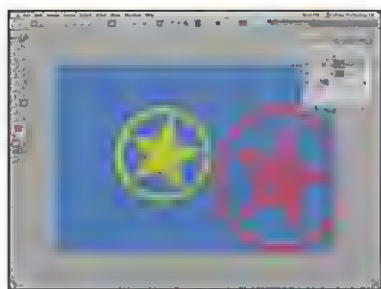
Save and use your complex shapes, and have fun with boolean functions while you're at it



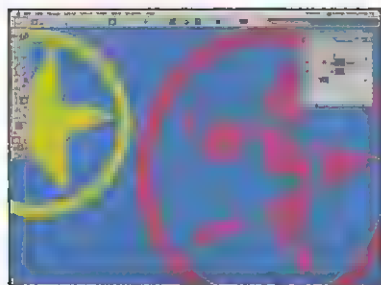
Here you can see that we have a shape layer containing a shape that we constructed from three different shapes. We want to save this group of shapes as a Custom Shape. We used the Path selection tool to click and drag a rectangular selection around all of the shapes to make sure that each one of the three was selected.



From the Edit menu we selected Define Custom Shape. A dialog box opens prompting us to name the new shape. We called it 'star' and clicked OK. Next we selected the Custom Shape Tool from the Shape Tool pop-up menu in the toolbox. We clicked on the Custom Shape Preset Picker in the tool options bar to view the preset shapes.



Our new custom shape was at the bottom of the list of presets. We selected it, shown by its icon being displayed in the tool options bar. We chose a new foreground colour and clicked on the 'Create new shape layer' icon in the tool options bar. Then we clicked and dragged to create a new shape. It's an odd shape because it wasn't constrained when we drew it.



In the tool options bar, we selected the 'Subtract from shape area' button. Then, holding down the [Shift] key to constrain the proportions of the custom shape, we drew another shape overlapping the existing one. Interesting results can be achieved when you use the Add/Subtract/Intersect functions on custom shapes that are made up of multiple shapes.



Renaming shapes

If you have added a custom shape to the Custom Shapes preset picker and decide that you don't like the name you used, it is possible to change it. Simply open the preset picker and right-click (PC), or [Control] click (Mac) on the shape's thumbnail. A pop-up menu will appear, choose Rename Shape from the menu. The original naming dialog box will reappear.



Changing/locking properties

There is a button in the tool options bar with a link of chain on it. This button specifies whether or not the properties of a shape layer will be changed. If you click it, then specify a new foreground colour in the picker and draw a shape, the new colour won't be used because the properties are locked – the existing colour in the tool options bar will be used instead. If the button isn't enabled the properties won't be locked.

Shape layer content

The colour and contents of shape layers are editable, as are blending modes and opacity



Changing fill colour

Another way to change the colour fill of a layer is to first select it in the Layers palette. Then, to fill it with the current foreground colour, hold down the [Alt] key (PC), [Option] key (Mac), and click [Delete] on the keyboard. To fill it with the background colour, hold down the [Control] key (PC), [Command] key (Mac), and press the [Delete] key.

Shape layers are basically solid color fill layers with vector masks applied to them. As a result, your shape layers can be edited like fill layers. To change the colour of a shape layer, simply double-click the Layer thumbnail icon (not the vector mask icon) in the Layers palette, or you can choose Layer Content Options from the Layer menu. This will open the Color Picker – select a new colour and click OK. This colour will then be applied to the contents of the shape layer. Your shape layer doesn't necessarily have

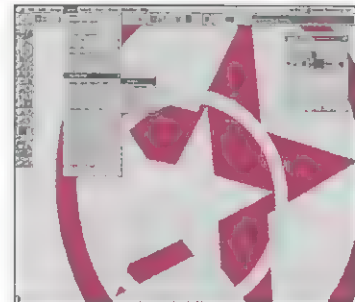
to be a solid colour either. If you select a shape layer in the Layers palette and choose Layer > Change Layer Content from the menu, you will be provided with a number of different options. You can change the fill layer contents to a gradient or a pattern, or you can change the shape layer to an actual adjustment layer.

Your shape layers are layers in their own right, which means you'll be able to perform limited locking functions, alter their fill and opacity, and even change their blending mode in the Layers palette.

RASTERIZING SHAPE LAYERS

Change your vector content to pixels by rasterizing your shapes

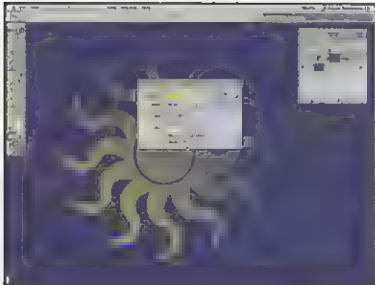
There are certain functions and specific paint and editing tools that will not be compatible with your shape layers. Because of the inherent differences between vectors and pixels, some pixel-based editing options simply will not work with vectors. Rasterizing is the process of translating vectors into pixel data. Choosing Layer > Rasterize from the menu gives you two options for rasterizing. The first option is to rasterize the shape itself. Your layer will be turned into a pixel-based layer containing the shape defined by the vector mask, which is deleted. The second option changes the fill content to pixel data, leaving the layer mask untouched



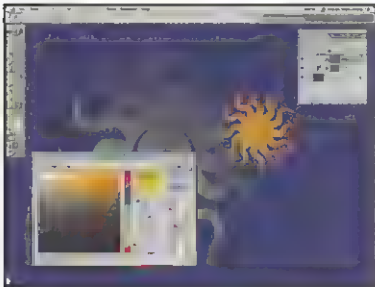
Layer > Rasterize > Shape converts the shape layer's fill content to pixel data, applies, then deletes the vector mask.

Altering the content

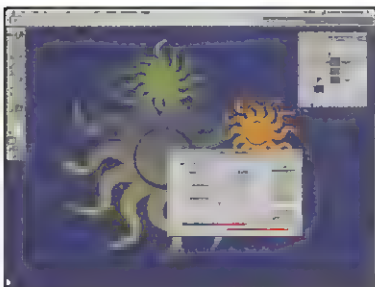
Change shape layer content and use the rasterize functions to exploit pixel editing tools



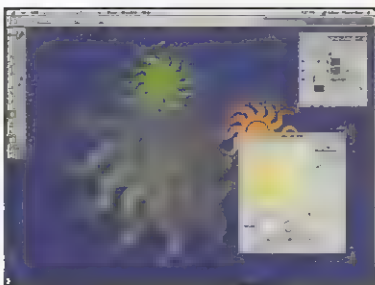
In this example we created a new shape layer by using an existing preset shape from the Custom Shape Tool. To change the fill content of the layer to a gradient, we selected **Layer > Change Layer Content > Gradient** from the menu to change the solid colour fill to a gradient fill. The resulting dialog box allows us to change the gradient options.



We used the same Custom Shape Tool with the same preset to create another shape layer. By default, all new shape layers are fill colour layers. To alter the layer colour we chose **Layer > Layer Content Options** from the menu. Because this was a fill colour layer, the Color Picker was opened. We selected a different colour from the picker and clicked OK, changing the colour of the shape layer.



We chose **Layer > Duplicate Layer** from the menu to create a duplicate of the selected layer. We repositioned the shape layer vector mask using the Path Selection Tool. Again we chose **Layer > Change Layer Content** from the menu, but this time selected the Hue/Saturation option to change our fill layer to an adjustment layer. We adjusted the hue and saturation to affect underlying layers.



We selected our first shape layer in the Layers palette – the one with the gradient fill. From the menu we selected **Layer > Rasterize > Shape** to rasterize the layer content and discard and apply the vector mask. Now that our layer is converted to pixels, we can use a pixel editing tool like **Filter > Blur > Motion Blur** from the menu.



Stacking layers

By duplicating your shape layers you can create interesting effects based on the way the layers overlap each other. Try changing the blending modes and opacity and fill settings of individual layers. Also, vary the fill content from layer to layer. You will be surprised at what can be achieved by stacking and altering duplicate layers.



Removing custom shapes

In the Custom Shape Preset Picker in the tool options bar, it is very easy to continually accumulate custom shapes. However, if it is getting too crowded in there, simply hold down the [Alt] key (PC) or the [Option] key (Mac), and click on a shape to remove it. The mouse pointer turns into a pair of scissors to indicate 'cutting'.

Align, distribute and combine

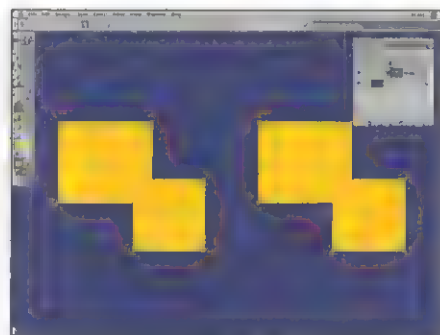
Line up your shapes in a number of ways and merge groups of multiple shapes into one



Aligning more than one shape layer

You can only use the alignment options in the tool options bar when your shapes are on the same layer. If you want to perform alignment functions to multiple shape layers, link them in the Layers palette and use the Align Linked functions under the Layers menu.

When you have more than one shape on a custom layer there are various ways to arrange them – two sets of alignment options appear in the tool options bar, plus two basic sets to distribute your shapes. These options only appear when you use the Path Selection Tool to select more than one shape on the same shape layer. Select one shape and then hold down the [Shift] key and select others. Clicking on one of the alignment or distribution buttons alters the placement of the shapes within the layer. Another option that appears



The two shapes on the left were selected with the Path Selection Tool. We copied them and clicked Combine to merge them into one (right).

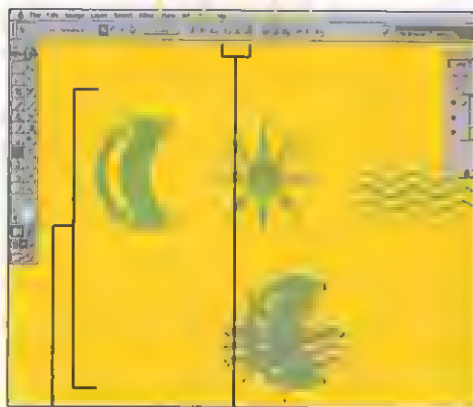
when you have more than one shape selected is the Combine button, which merges the selected shapes into one.

OPTIONS FOR MULTIPLE SHAPES

These buttons help you perform vertical alignment functions for multiple shapes. You can align them according to their tops, bottoms or their centre points.

The Combine function will combine any number of vector shapes into a single shape, provided they are on the same layer.

The three shapes on the top row are positioned where we created them. By selecting all three and then clicking on the horizontal centre alignment button (bottom), we alter their positions.



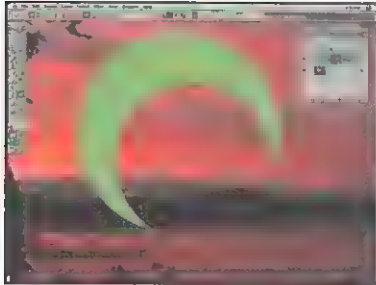
The vertical distribution options allow you to equally distribute three or more shapes according to their centres, top edges or bottom edges.

The horizontal distribution options allow you to equally distribute three or more shapes according to their centres, left edges or right edges.

Perform horizontal alignments using one of these three buttons with more than one shape selected. Align them centrally, to the left or to the right.

Shapes and blending modes

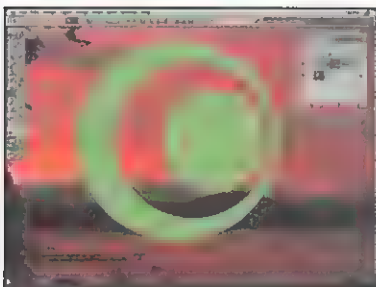
Achieve unusual results by combining your vector shape options with pixel-based images



On this existing image of a sunrise on the water, we used the Ellipse Shape Tool to create a perfect circle on a new shape layer – we had a green foreground colour specified. Next, we selected the 'Subtract from shape area' button and drew a smaller circle that overlapped the first.



We drew another, even smaller, circle with the 'Add to shape area' button enabled in the tool options bar. Next, we selected the Path Selection Tool from the tool bar and clicked on one of the shapes. While holding down the [Shift] key, we clicked on the remaining two shapes to select them all.



You will notice that because you have more than one shape selected, and the Path Selection Tool selected, that the align and distribute functions will be visible in the tool options bar. With the three shapes selected we first clicked on the vertical centre alignment button to align the vertical centres.



With the vertical centres aligned, we then clicked on the horizontal centre alignment button to centre the shapes horizontally as well. Next, in the Layers palette, for an interesting effect, we changed the blending mode to Overlay. Then we duplicated the layer, changed the duplicate blending mode to Color, and used the Move tool to move the layer.



Unlinking

By default, when you create a shape layer, the vector mask is linked to the fill colour layer. This means that if you move the layer using the Move Tool that the mask will move with it or vice-versa. However, if you wish to move the vector mask and the fill colour layer independently of each other, you can unlink them by clicking on the chain link icon between them in the Layers palette.



Path from a shape layer

When you create a shape layer you create a vector shape. As you know by now, the home for vectors is in the Paths palette. When you select a shape layer in the Layers palette, the path that defines your vector mask for that shape layer appears in the Paths palette, but only when the shape layer is selected. You can create a new permanent path based on your shape layer by duplicating this path.

TRANSFORM IMAGES WITH THE EDIT MENU

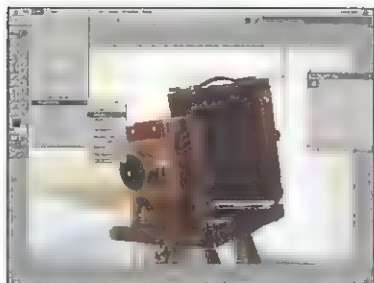
There are a number of ways to transform images, selections and shapes in Photoshop. All you need to do is explore the options available in the Edit menu

Where would the world's leading image editing application be without its Transform functions? Performing a variety of transformations to images has always been one of the key issues for a program like Photoshop. Control over colour and composition are also of vital importance, but without the ability to transform image elements, Photoshop's usefulness would be seriously restricted.

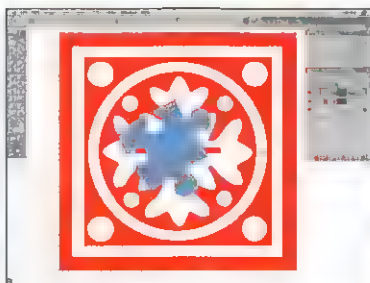
Transformations

"What is a transformation?" you may ask. Well, it can be one of many things, but broadly it is just what the name implies – the manipulation of

something in Photoshop that transforms it into something else. By 'something else' we don't mean anything as dramatic as morphing one image into another. What we're talking about are the basic functions that you'll begin to take for granted the more you use Photoshop. Things like the ability to scale something up or down, or rotate something, are perfect examples of powerful transformations that are so commonplace that they hardly seem impressive anymore. But try and create a composite collage without using at least one transformation function – we'll bet you can't do it, not without a struggle anyway.



Page 100 Use transformation functions to scale and rotate areas of pixels



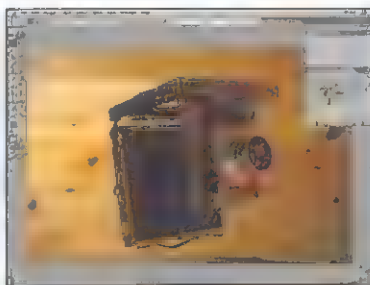
Page 104 Transform vector-based shape layers with scaling and rotation



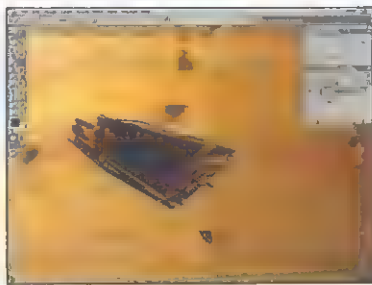
Page 105 Alter perspective to correct keystone distortions in architectural shots



Page 106 Use the Free Transform option to perform multi-transformations



Page 107 Discover the handy range of pre-set transformations



Page 109 See how bizarre the effects of the Transform Again function can be

All the tools you need to perform any transformation are waiting for you under the Edit menu. There you have the ability to perform basic transformations like scaling and rotating, as well as slightly more advanced transformations like distortion, skewing and altering perspective. If you're still looking for more, there are a range of pre-defined rotation options, and the ability to flip things front to back or top to bottom, or both. Another fantastic transformation tool is the Free Transform Tool, which allows you to perform multiple and diverse transformations on a selection or object and then apply them. As you

can imagine, such transformation tools offer scope for manipulating your images in all sorts of ways.

What can you transform?

The most common target of transformation is a selected area of pixels. However, you can transform pixel-based content on a layer without selecting it. And, conversely, you can transform a selection border without altering the contents, although this process is a little different and it involves the Select menu. Finally, the Transform functions cross the bridge from pixels to vectors and can be applied to paths and shape layers too.

About transformations

Many of the transformation functions work in a very similar way to each other



Select the right tool

Depending on what you are planning to transform, in order for it to work you'll need to have the appropriate tool selected. If you are trying to transform a vector object or path, you'll need to have a vector tool selected for the Transform menu options to become available. The same goes for pixel data or selections: you need to have a pixel editing, selection or paint tool selected.

When working with the five main transformation functions – Scale, Rotate, Skew, Distort and Perspective – what appears on the screen is the same, no matter which function you choose. A 'bounding box' appears around the specified target of your transformation, whether it's a shape, selection, pixel layer content, or alpha channel. The bounding box contains a fixed reference point that is, by default, in the centre of the chosen area. But you can move this point wherever you wish – it doesn't



The fixed reference point can be moved from the centre by clicking and dragging – it doesn't even have to be inside the bounding box.

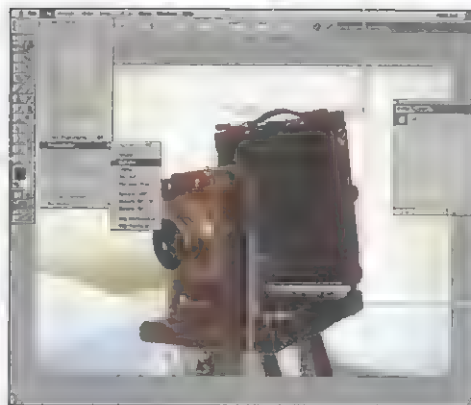
have to be in the centre. To transform, just click and drag on a handle of the bounding box.

TRANSFORMATION INTERFACE ELEMENTS

The tool options bar displays all of the numerical data as you perform your transformations, regardless of which function you are using at the time.

All of the transformation functions you'll need are located under the Edit menu. A checkmark appears beside the function that you have currently selected.

All transformation functions are performed around a fixed reference point. This point automatically appears in the centre, but can be moved to anywhere you like.



The handles appear on all corners and at the mid-points of each line segment. The effect of moving them varies depending on a tool's particular function.

You can perform a transformation to pixel-based content, a selection border, an alpha channel or even a path or shape layer.

The target area is surrounded by a transformation bounding box. This box provides the necessary fixed reference point and handles to perform various transformations.

Performing transformations

How to apply a transformation, and applying multiple commands in a single transformation

The trade-off with transforming is the deterioration of image quality – after a transformation an image made up of pixels will become slightly softer or less sharp. This happens each time you perform a transformation, so obviously, the more transformations you apply to a bitmap image, the more the quality will suffer. However, there is a way around this. You can apply multiple commands within a single transformation. For example, when you have a selected pixel area and you choose Distort Transformation, you

do not have to apply it before you perform an additional transformation. Simply go back to the Edit menu and choose another type of transform function like Rotate or Scale – the current method of transformation will have a check mark next to it in the menu. When you are happy with the results of your transformations you can apply them by pressing the [Enter] key (on a PC or Mac), or the [Return] key (on a Mac). Or you can click on the Commit button in the tool options bar, or just double-click inside the bounding box.



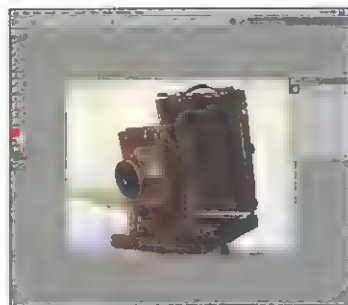
The info palette

If you choose Window > Info from the menu, the Info palette is displayed. When you perform transformations, the numerical data is also displayed in the Info palette, the difference is that you cannot enter data into it like the tool options bar – it is for reference purposes only.

NUMERIC TRANSFORMATIONS

Perform precise transformations based on numeric input

When you choose any of the Scale, Rotate, Distort, Skew or Perspective transformation tools from the Edit menu, the tool options bar changes, offering you various numerical input fields that allow you to perform these transform functions based on specific input. There are fields to enter numeric values for scaling, and to constrain horizontal and vertical scaling. You can enter a value for rotation of the entire bounding box or a single corner point, depending upon the selected transform function. It is also possible to enter horizontal and vertical skew angles for the object or certain points, again depending upon the function selected.



As you adjust the bounding box for a transformation, the tool options bar's numerical data changes accordingly.

Scaling and rotating

Familiarise yourself with the two most commonly used transformation functions



Transform Again

You can re-apply your last transformation to any selected area by simply choosing Edit > Transform > Again from the menu. Your previous transformation will be applied to your current selection within the last bounding box, using the exact numerical data of your last transformation.

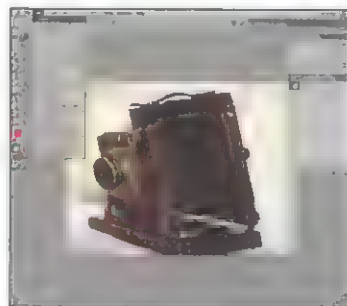
Scaling and rotating are two fundamental transformation functions and even the most basic of image compositions couldn't be created without them. When you select the Scale option, just begin dragging the points of the bounding box to resize the contents. The handles at the centre of the line segments will allow you to scale the box vertically or horizontally, whereas the corner handles will do both. Holding down the [Shift] key will constrain the horizontal/vertical aspect ratio of the box as you scale.

Holding down the [Alt] key (on a PC), or [Option] key (on a Mac), will scale outwards from the centre point in all directions, no matter where you have positioned it. The Rotate function allows you to rotate the box by clicking and dragging on any handle. By holding down the [Shift] key your rotations will be constrained to movements of 15 degrees. All your rotations are based around the fixed reference point – moving the point outside the bounding box produces interesting results. This is true for scaling too.

MOVEMENTS AND UNDOS

Here are two more useful items for transformation tasks

When the bounding box appears for a transformation, the majority of the menu items become unavailable. If you try to select a different editing tool from the toolbox with the bounding box present, you'll be prompted to cancel or apply your transformation before Photoshop will let you. This is because most tools and functions aren't appropriate for transformations. But even though you can't access the Move tool, movement is possible – just click in the bounding box and move it and the contents. You can undo this action via Edit > Undo – the movement will be undone along with any transformations you've applied.



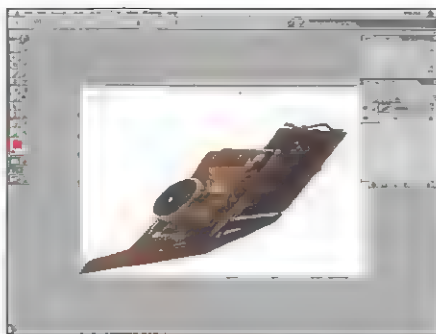
Choosing Edit > Undo from the menu will undo an entire transformation, even if it is made up of multiple steps.

More advanced transformations

Create more complex transformations with the Skew, Distort and Perspective functions

With the Rotate and Scale functions the initial bounding box, although increased, decreased or rotated, still essentially remains a rectangle. In contrast, Skew, Distort and Perspective involve changing the box shape entirely to reshape the contents. You can distort the shape by moving the corner points and then adjust the perspective of the distorted shape.

These advanced transformation functions, incorporating the use of diverse angles for the entire box, or in some cases, individual points or



Here we used the Skew option, then performed a further transformation using the Perspective function, to achieve this interesting shape.

pairs of mirrored points, can be used in any combination. Experiment for some stunning perspective effects



Transformations in Elements

For those of you who are using Photoshop Elements, you'll notice that the transformations do not appear under the Edit menu like they do in Photoshop. Instead, the options are under the Image menu. There are three different sub-sections that combined, contain all the functions you'll need. The sections are Rotate, Resize and Transform.



Perspective cropping

The Crop tool in Photoshop has a function that lets you alter the perspective of your image as you crop it. This is an interesting overlap of the Transform functions into the cropping functions. When you draw a marquee with the Crop tool an option appears in the tool options bar that lets you alter the perspective. Enabling this functions gives you the option to move individual handles on the marquee, which will alter the perspective of the cropped image.

THE ADVANCED FUNCTIONS EXPLAINED

SKEWING horizontally or vertically slants an item. You can move individual corner handles, or use a centre handle to move an entire side. Holding down the [Alt] key (on a PC), or [Option] key (on a Mac), causes the movement to affect two opposing sides, from the centre point outwards.

DISTORT allows you to reshape the box in just about any way you like, using all of the handles. Holding down the [Shift] key constrains your mouse movements to 45 or 90 degree angles. And the [Alt] key (PC), [Option] key (Mac), causes the movement to affect two opposing sides, working out from the centre point.

PERSPECTIVE enables you to simulate one-point perspective by moving the corner handles. Depending whether you make a horizontal or vertical movement, the opposite point on the same line segment of the bounding box will mirror your movement, creating the illusion of perspective.

Rotate and Scale

We'll use the two most fundamental Transform functions to alter vector-based shapes layers



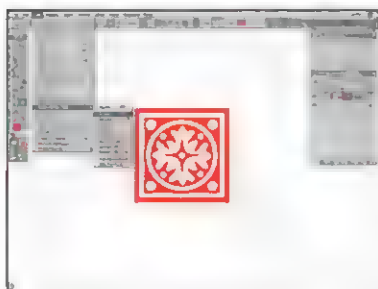
16 bit images

You can't apply any of the Edit menu transformations to images that use 16 bits per channel. But there are a few basic transformations in the Image menu that affect the entire canvas area. Under Image > Rotate Canvas, you can choose from preset rotations as well as the ability to flip your canvas vertically or horizontally. And as most users work with eight bit per channel images, it shouldn't be a big problem.

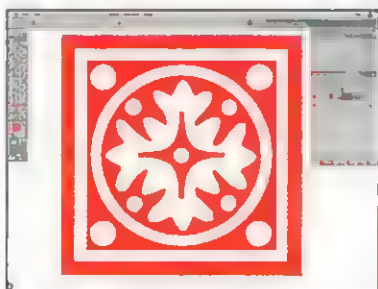


Background layer

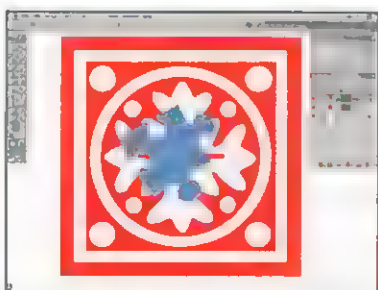
Without using a selection border, you can transform the contents of any layer, except the Background Layer. Since it is a fixed layer and not a floating layer you can only transform selected areas on this layer. However, if you double-click the layer icon and rename it, it is no longer a background area. This means you can perform transformations on its content, like you would to a normal layer.



1 We selected the Custom Shape Tool, and selected a preset shape from the tool options bar. Making sure the Shape Layers option was enabled, we clicked and dragged to create a new shape layer. We selected the Path Selection Tool from the toolbar and clicked on the shape to select it. Then we chose Edit > Transform Path > Scale from the menu.



2 Holding down the [Shift]+[Alt] keys (on a PC), or [Shift]+[Option] keys (on a Mac), we grabbed a corner handle and dragged outwards. By holding down these keys while we dragged, the aspect ratio was preserved and the scaling occurred outwards from the fixed centre point. We pressed the [Enter] key to apply the transformation.



3 We then created another shape layer using a different foreground colour and shape preset. We selected the shape and then chose Edit > Transform Path > Rotate from the menu. We held down the [Shift] key and rotated the shape by clicking and dragging a corner handle on the bounding box. Then we clicked on the fixed centre point and dragged it out of the bounding box.



4 Once the centre point was moved, we clicked and dragged on a corner handle of the bounding box to rotate it. Even though the fixed centre point was moved outside of the bounding box, the selected shape still rotates around it in a large arc. Notice that the numerical entry for rotation in the tool options bar changes as you move the object.

Create advanced transformations

Go beyond the basic Rotate and Scale options to change the perspective of an image



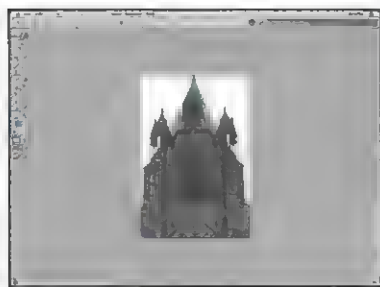
In this example, the first thing we did was to rename the background layer by double-clicking the icon, so that we could transform all of the layer contents. Next, we selected **Edit > Transform > Perspective** from the menu. We grabbed one of the top handles and dragged it outwards to remove the keystone distortion that existed in the image.



The alteration to the perspective made the church look a little too wide, so before applying the transformation we selected **Edit > Transform > Scale**. We held down the [Alt] key (on a PC), or [Option] key (on a Mac), to increase the size of the bounding box from the fixed centre point outwards, and grabbed the top centre handle and pulled it upwards.



Next, we noticed that the church looked a little crooked, so from the menu we chose **Edit > Transform > Skew**. Again, we clicked on the top centre handle. But this time we dragged it sideways to the right until the church began to look straight again. Now, the only remaining problem was that the right side of the church image is higher up than the left.



From the menu we chose **Edit > Transform > Distort**. Then we grabbed the upper-right handle and pulled it down towards the bottom of the image until the two smaller spires appeared even. Finally, we clicked inside the bounding box and moved the image to the right to centre it on the canvas, and pressed the [Enter] key on the keyboard to apply the transformation.



Keystone distortion

Keystone distortion occurs when instead of photographing something with a straight-on view, it is photographed on an angle, distorting the subject. Our church image is a prime example of keystone distortion. The building is photographed from the ground looking up, causing the top to look thinner than the bottom.



Beyond the canvas

When you perform a drastic transformation or a large size increase it may cause large sections of your image to extend beyond the edge of the canvas, making it appear lost. However, unless you have cropped the image after performing the transformation, the parts of the image are still there, they just aren't visible. Just use the Move tool to move the visible image from side to side and reveal the hidden bits.

Free Transform

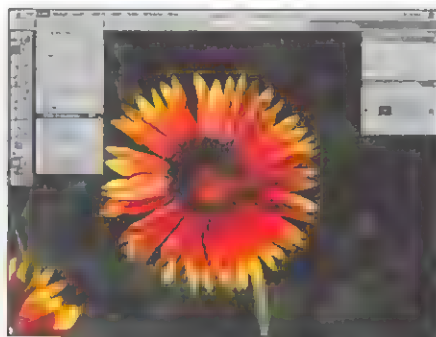
One operation can perform multiple transformations, without using the Edit menu



Free Transform

Once you discover the benefits of using Free Transform rather than performing individual transformations, you'll probably be hooked on it, if only for speed and convenience reasons. And to speed the process up even more, try using [Control]+[T] (on a PC), or [Command]+[T] (on a Mac) as a shortcut to access Free Transform.

Being able to perform a number of different operations at once while preserving image quality is a huge benefit. But there will be times when having to go back to the menu each time you perform an operation, and then switching to another menu will seem a little cumbersome. This is where the Free Transform option comes in, located under the Edit menu, directly above the Transform sub-menu. Choose Free Transform from the menu and the transform bounding box appears around your object or selection. Then, by using a



Due to its convenience, it is likely that once you begin to use Free Transform, this will be the only way that you perform transformations.

variety of keyboard commands, you can access all the Transform options without returning to the menu.

FREE TRANSFORM COMMANDS

When you enter Free Transform, the bounding box is scaled automatically. Just use the handles the way you normally would while scaling your image.

Right-click (on a PC), or hold down the [Control] key and click (on a Mac) inside the bounding box, to access a pop-up window to select any Transform function.

Clicking a corner handle and dragging while holding down the [Control] key (on a PC), or [Command] key (on a Mac), enables you to perform distortions.



When you move the mouse pointer outside of the bounding box it visibly changes to indicate rotation. When this happens, just click and drag to rotate.

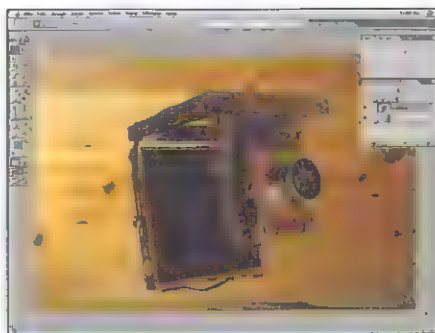
Alter perspective by clicking and dragging a corner point while holding down [Control]+[Alt]+[Shift] (on a PC), or [Command]+[Option]+[Shift] (on a Mac).

By holding down [Ctrl] (on a PC), or [Command] (on a Mac), and clicking on the centre handle of a line segment, you activate Skew. Simply drag to skew the box.

Preset transformations

Photoshop provides a set of basic presets to speed up simple transformations

At the bottom of the Edit > Transform menu are five transformations we haven't looked at yet. They are simple transformations that perform an operation directly, without any further user input. As a result, there is no bounding box present. There is no need to apply the transformation either, because it is automatically carried out and applied when you select the menu item. All of these simple flipping and rotating operations are also available in the Image menu under Rotate Canvas. However, the options in the Image



Here we chose Edit > Transform > Rotate 180 degrees from the menu, directly transforming the layer content, with no bounding box.

menu differ from those in the Edit menu, because they affect the entire image, not just a selection or object.



Transforming layers

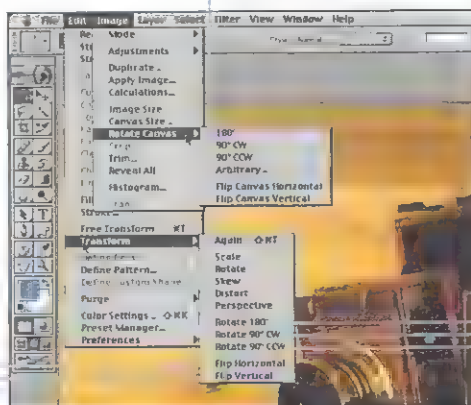
It is possible to transform more than one layer together at a time. You simply need to link the desired layers to your current layer in the Layers palette before you apply the transformation. Make sure that you do not have an active selection, if you do the transformation will only affect the selected area on the selected layer, leaving the linked layers untouched.

THE AVAILABLE PRESET TRANSFORMATIONS

All these preset transformations can be applied to an entire image, layers and channels, by selecting the options under the Image menu.

Flip Horizontal is another simple function that often comes in handy. It takes your specified target and flips it left to right, providing a mirror-image of the original.

Use the Flip Vertical function to flip a target upside-down completely, inverting it vertically. Do not confuse this with 180 degree rotation – it is different.



As the name suggests, this option will rotate your selected area, layer content, vector shape or alpha channel through a full 180 degrees.

CW in this option means clockwise. Choosing this option will rotate whatever you have specified 90 degrees to the right.

In this option CCW stands for counter-clockwise, meaning that when this option is chosen, your specified target is rotated 90 degrees to the left.

Preset and Free Transformations

It's surprising what you can achieve with Free Transform and a basic preset transformation

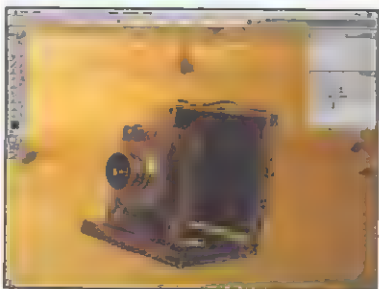


Undos

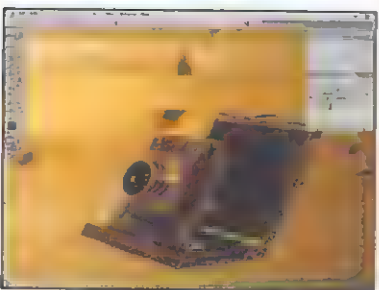
When you are performing operations within your bounding box, you can only undo your last operation. However, once you apply a transformation, choosing **Edit > Undo Transformation** from the menu will undo the entire transformation, no matter how many operations are involved.



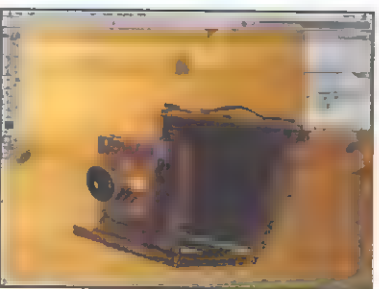
We selected the layer containing the camera in the Layers palette, and chose **Edit > Free Transform** from the menu. We had no active selection, so the bounding box surrounded all of the content on the selected layer. The Scale option is the default for Free Transform, so we held down [Shift] and clicked and dragged on a corner point to decrease the camera's size while keeping its proportions.



Next we clicked on the fixed centre point and dragged it over so that it sat inside the lens. Since we're in Free Transform mode, we moved the mouse pointer outside the bounding box to change the operation to Rotate; you'll notice that the pointer has changed to a rotate icon. We clicked and dragged to rotate the camera around the fixed point.



The next thing we wanted to do was skew the camera, again, since we're in Free Transform mode we don't have to return to the Edit menu. To perform a skew operation, we held down the [Control] key (PC) or the [Command] key (Mac) and clicked on the centre handle of the top line segment and dragged it to the right.



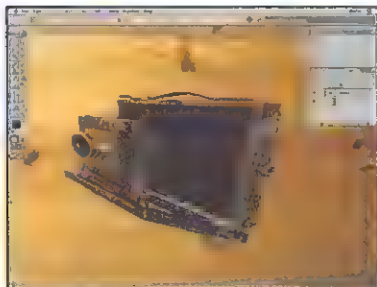
Next, we wanted to distort the shape of the camera a little. We continued to hold down the [Control] key (PC) or the [Command] key (Mac). But this time instead of clicking and dragging a handle on the centre of a line segment, which performs a skew operation, we clicked and dragged on a corner handle to freely distort the camera.



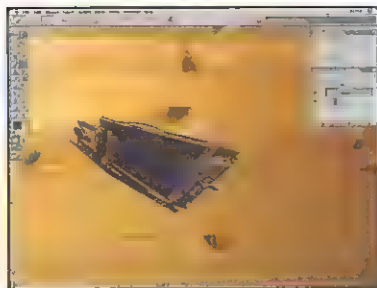
Menu changes

Depending upon what the target of your transformation is, the options in the menu may vary. For example, if you want to perform a transformation on a shape or path, the Transform menu option will change to **Transform Path**. Or if you have selected parts of a path using the Direct Selection Tool, the Transform command becomes **Transform Points** in the menu.

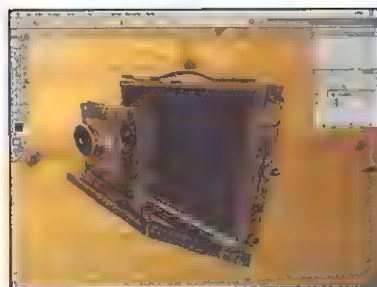
Let's continue to explore the Free Transform tool and showcase one of the preset tools



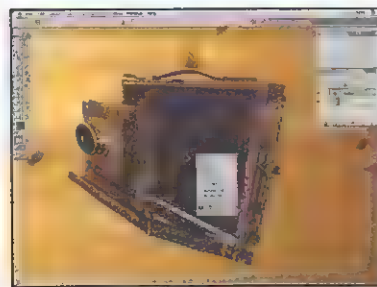
While using Free transform, the way to alter perspective is to hold down the [Control]+[Alt]+[Shift] keys (on a PC), or [Command]+[Option]+[Shift] keys (on a Mac), and drag on a corner handle. We grabbed the lower-left corner and dragged it upwards – the upper-left corner mirrored this movement to simulate one-point perspective.



When we were satisfied with the operations so far, we pressed the [Enter] key to apply the cumulative transformations. Next, we selected Edit > Transform > Again from the menu. This applied all of the cumulative operations performed in the previous transformation to the already transformed shape. As you can see, it produced a very striking – if somewhat strange – effect.



The Transform Again effect was far too drastic so we selected Edit > Undo Transform Again from the menu to undo it. Wanting to adjust the shape again, we selected Edit > Free Transform from the menu and, while holding down the [Alt] key (on a PC), or [Option] key (on a Mac), we dragged the top centre handle upwards to vertically scale the camera out from the centre point.



Then we right-clicked (on a PC), or [Control]-clicked (on a Mac) within the bounding box to access the pop-up menu. From the pop-up menu we chose the second preset transformation from the bottom – the Flip Horizontal option – to invert the camera's left and right sides. When finished and satisfied with the operations we pressed the [Enter] key to apply the transformation.



Don't limit yourself

In this chapter we have displayed a number of uses for various transformations. The most obvious use is to edit a selected area of pixels, a shape or layer content which is visible in the image window. But remember that the transformation functions can be used in less obvious places, like alpha channels, temporary Quick Masks, and even on partial segments of a path.



Interpolation

When you perform a transformation, pixels are added or deleted. The colour value of these pixels is calculated by the 'interpolation' method specified in your General Preferences for the application. The best results are achieved when the Bicubic option is enabled – this is the slowest method, but the best. Bicubic is the default setting.

Chapter 9

PUTTING YOUR NEW SKILLS INTO PRACTICE

Open the images on the accompanying CD and follow the walkthrough in this chapter. You'll be using the skills we've looked at in this Focus Guide to produce a stunning image

Welcome to the final chapter of the main section of this Photoshop Focus Guide. In this chapter, we'll walk you through a step-by-step creation of an original Photoshop composition, using many of the tools, functions and techniques that we've looked at in the previous chapters.

From theory to practice

By now you'll have a pretty good idea of the vast array of possibilities available to you by using selections, vectors and transformations. But the best way to learn any new skill is to try out your skills for real, putting what you have learnt into practice.

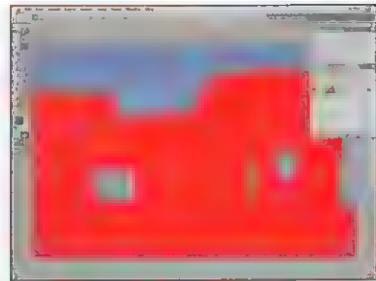
Like any image composition created in Photoshop, there should be a theme for the image. For this walkthrough we have decided on the mysteries of the ancient Mayan civilisation of Mexico. The main visual element is of a Mayan priest, and the secondary visual elements are things like the sun setting on the Gulf of Mexico, combined with atmospheric images of the ruins of the great ancient coastal settlement of Tulum, which were shot on location in Mexico's Yucatan Peninsula. The addition of symbols of the sun god and the lunar cycle will help to create interest in the image and provide insight into a



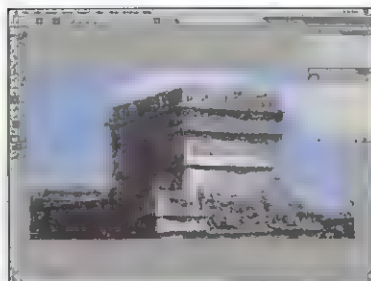
Page 113 Use colour images to create greyscale alpha channels for selections



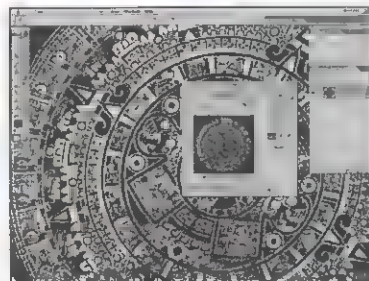
Page 114 Use Quick Mask mode and edit a selection as a temporary channel



Page 115 Preview a selection based on a range of colours using Quick Mask



Page 116 Use the Pen Tool to isolate elements from their backgrounds



Page 117 Use the Color Range tool to generate a complex selection



Page 119 Create layers of combined shapes and alter blending modes

people who had a great knowledge of, and worshiped, the day and night skies above them.

Take a walk with us

Obviously, we won't use every function and technique described in this book – the walkthrough would stretch to volumes. More than anything else, it is important to realise exactly what procedure or tool is relevant to what specific image or situation. As you are no doubt well aware by now, there is often a variety of ways to perform the same task in Photoshop. The key to becoming a true master of the program is to recognise which tool

or procedure is most efficient for a particular task, and which will produce the best overall result. As you work your way through the following pages, the logic behind which tool or technique to use will begin to reveal itself as you begin to achieve results on your own.

When you've finished this walkthrough, not only will you have the great satisfaction that comes from creating a fantastic piece of work, but you'll also be a lot wiser. So when you wish to approach image other editing projects in Photoshop in the future, you'll hopefully have a much better understanding of how to go about it.

Beginning the composition

We'll start by bringing in the main visual element and creating masks for use later on



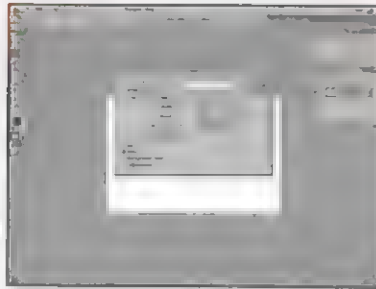
Files for this project

All the files you need to complete this walkthrough are supplied on the accompanying CD. These images are for non-commercial training purposes only and are not to be reproduced elsewhere without permission. If you would like to request permission to reproduce any of these copyright-controlled images contact Derek Lea via email: derek@dereklea.com



File sizes

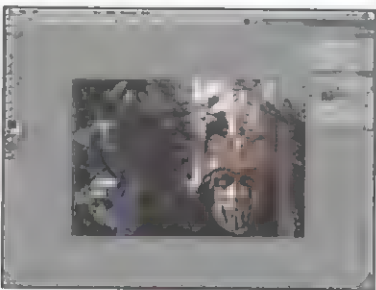
Since the destination for this image is print, we are working at a 300dpi resolution. However, depending upon the memory constraints of your system, this may be too large. Feel free to follow along at a lower resolution, just keep in mind that you will need to make the necessary adjustments for things like brush tip sizes and pixel radius settings.



1 In Photoshop, create a new file by choosing **File > New** from the menu. In the resulting dialog box set the **Preset Sizes** to **Custom**, specify a width of 185 millimetres, a height of 125 millimetres, a resolution of 300 pixels per inch, and specify **CMYK** mode, since the destination is print. Click the **White** option in the contents section at the bottom.



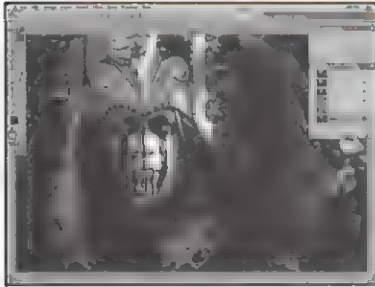
2 From the accompanying cd, open the file: **priest.jpg**. Choose **Edit > Select All** from the menu to select the contents of the entire background layer. Select the **Move** tool from the toolbar and click and drag inside the selection border. Drag the contents of your selection directly into the new file you just created. It will appear in the **Layers** palette as a new layer.



3 Double-click the name on the layer icon and rename the layer 'priest'. Press **[Ctrl]+[T]** (on a PC), or **[Command]+[T]** (on a Mac), to open the **Free Transform** function. Since the image is larger than the canvas area the bounding box extends beyond the canvas. Hold down the **[Shift]** key to constrain the proportions and grab and drag the corner handles to reduce the size of the layer.



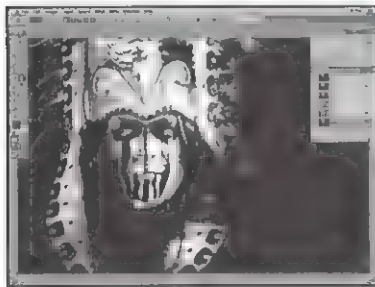
4 Hold down the **[Control]** key (Mac) and click, or right-click (PC), inside the bounding box to access the **Transformation** pop-up menu. From the pop-up menu choose **Flip Horizontal** to flip the layer and then use the **Move** tool to position the bounding box contents so that the face is off-centre towards the left side. Press the **[Enter]** button to apply the transformation.



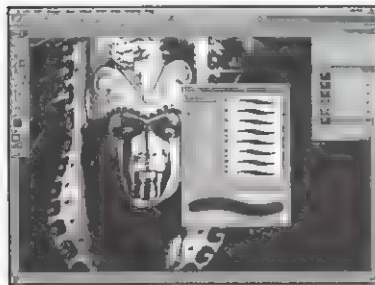
5 Choose **Select > All** from the menu to select the contents of the layer. Choose **Edit > Copy** from the menu to copy the layer contents to the clipboard. In the Channels palette, click on the 'Create new channel' button to create an alpha channel. Then, from the menu choose **Edit > Paste**. This will paste the copied layer contents into your greyscale alpha channel.



6 Deselect by using **Select > Deselect**. Double-click the name of your alpha channel in the Channels palette and rename it 'priest', just like your layer. Choose **Image > Adjustments > Levels** from the menu. Increase the contrast by dragging the Shadow slider to the right and the Highlight slider to the left in the Input Levels section. Click OK to apply the level adjustment to the channel.



7 Select the Gradient tool from the toolbar. In the tool options bar select **Linear Gradient**, and from the gradient picker select 'Foreground to transparent'. Leave the mode at Normal and the opacity at 100%. Press [D] to set foreground and background colours to default. Click and drag from the right of the image to the left to create a gradient to the right of the face.



8 Select the Brush tool in the toolbox. In the tool options bar choose a soft brush with a 65 pixel radius from the brush preset picker. Leave opacity at 100% and open the Brushes palette by clicking its button. Disable any shape dynamics by unticking the box in the palette. Use the Brush tool with a black foreground colour to paint out any areas outside the face missed by the Gradient tool.



Contrast

When you are bringing images into your alpha channels as a basis for a selection, you'll rarely have many existing areas of solid white or solid black. Areas of pure white and pure black create areas of total selection or deselection. Increasing the contrast within your channels will help to add these areas, otherwise you will be left with few definable selected areas, and many intermediate grey tones



Deviate from the norm

When you are creating an image composition, often one's first instinct is to place the main element in the centre, and it is tempting to follow this instinct. You will notice in this image that we have placed the main visual element just to the left of the centre. Deviating from the standard central element formula can create interest in your compositions and allow you greater space on one side of the element to play with.



Introducing the sky

»

We'll modify the existing alpha channel and use it as a mask to add a sky to our image



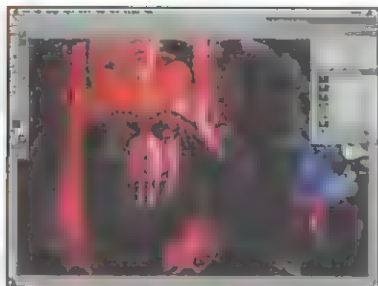
Channel options

We have our Channel options set so that white displays selected areas and black displays masked areas. To follow this tutorial properly you should have your settings the same. To change the settings, double-click on the alpha channel in the Channels palette and select the Color Indicates: Masked Areas option.



Layers and layer masks

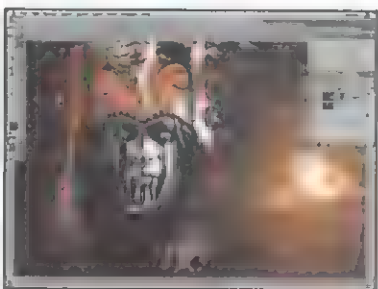
It is possible to use Transform functions to reshape a layer or a layer mask independent of the other. Just check in the Layers palette to see if they are linked. If they are, click on the link icon to unlink them, then select either the layer or the layer mask by clicking the appropriate icon. With the mask or layer selected and unlinked, you can make transformations and movements to one while leaving the other untouched.



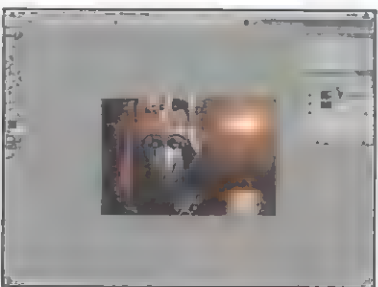
9 With your 'priest' channel selected click on the 'Load channel as a selection' button in the Channels palette to generate a selection from it. Invert the selection by choosing **Select > Inverse** from the menu. Click on your CMYK channel in the Channels palette to activate it. Click on the 'Edit in Quick Mask Mode' button on the toolbar to preview your selection as a temporary mask.



10 Double-click the Quick Mask button in the toolbar to access the Quick Mask options. Change the Opacity setting to 100% so that you can see a little more clearly what is selected and what is masked. Select the Gradient tool and choose the Radial option in the tool options bar. With the other gradient options the same as before, click and drag to mask out more areas of the face.



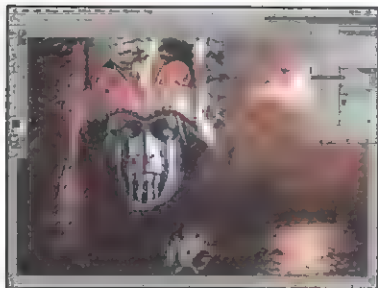
11 Click the 'Edit in Standard Mode' button in the toolbar to generate a selection from the temporary mask and return to standard mode. With the current selection active, open the file sky.jpg from the CD, click **Select > All**, then **Edit > Copy**. Return to your work file and choose **Edit > Paste Into**. This creates an unlinked layer with a mask only revealing areas of the current selection.



12 Select the layer icon in the Layers palette and choose **Edit > Free Transform** in the menu. Click and drag inside the bounding box to adjust the placement of the layer contents inside the mask. Use the handle at the centre of the left vertical line of the bounding box to increase horizontal size. Use a corner handle to increase the box size and move it so the sun is in the upper-right. Apply the transformation.

Adding elements

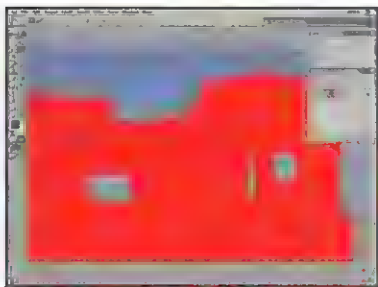
We'll use several selection and transformation functions to add additional elements



13 Double-click the layer's name and rename it 'sky'. Open the file *carving.jpg*, select all, and drag it into your work file as a new layer, using the same method as before. Rename the layer 'carving'. Now choose **Edit > Free Transform** from the menu and resize and reposition the carving layer. Change the layer's blending mode to **Soft Light** in the Layers palette.



14 In the Channels palette, select the 'priest' channel and click 'Load channel as selection'. In the Layers palette, select the 'carving' layer, then select **Edit > Clear** to delete the contents of the selection on the layer. Choose **Select > All** and copy the remaining contents of the layer with **Edit > Copy**. In the Channels palette, select **New Channel** from the menu and name it 'carving'. Paste the image into the channel using **Edit > Paste**.



15 Choose **Select > Deselect**, then open the file 'ruins1.jpg'. Select the Magic Wand tool in the toolbar. Set Tolerance to 32 (the default). Make sure Anti-Alias is on, and Contiguous is disabled. Click on the sky at the top of the image to create a selection with the Wand. Hold down [Shift] and click on any areas of the sky not in the selection to add them. Press [Q] to enable Quick Mask mode.



16 Select the Brush tool, and choose the 19 pixel hard-edged tip from the preset picker in the tool options bar, disable any shape dynamics in the Brushes palette. Then, using a black foreground colour and a 100% Opacity setting paint over any areas of the brick which aren't masked. When you are finished, type [Q] to exit Quick Mask mode. Choose **Select > Inverse** from the menu.



Quick Mask preview

In addition to being a terrific tool for creating a temporary mask, Quick Mask mode is an excellent way to preview a selection that you have created using either the Magic Wand or the Color Range tool. By changing the display to 100% in the Quick Mask options you can see immediately what is and is not included in your selected area.



Layer masks

A layer mask is basically an alpha channel that has been applied to the contents of a layer. When you have a layer selected in the Layers palette that has a layer mask applied to it, the layer mask will temporarily appear in the Channels palette. It is possible to generate a selection from this alpha channel. Also, you can generate a selection from the mask icon in the Layers palette by holding down the [Control] key (PC) or the [Command] key (Mac), and clicking on it.



Adding elements continued

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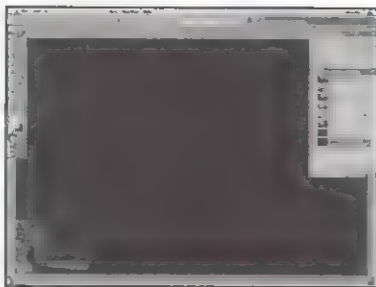
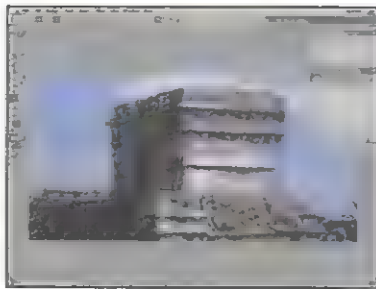
Saving channels

If you have the memory to support larger sized files, it is a good idea to keep your alpha channels in the Channels palette until you are finished editing your image. Even if you have finished with an existing channel, you may want to use it again later. Naming your channels appropriately will help you identify their uses at a later date.



Selected areas

When you are performing transformations to layer content, you do not always have to perform the transformation to all of the contents of that layer. By isolating smaller sections of the layer content with a selection tool you can achieve diverse and interesting results.

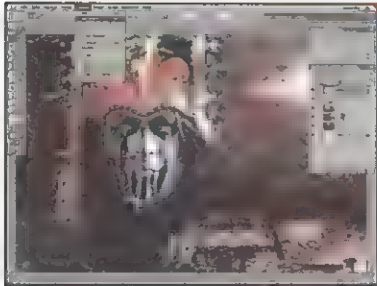


17 Select the Move tool. Drag the contents of the inverted selection into your work file as a new layer. Select **Edit > Transform > Flip Horizontal**, then **Edit > Transform > Scale**. Drag a corner handle while pressing [Shift], reducing the layer content and keeping the proportions. Click in the bounding box and drag the ruins so the bottom and right extend beyond the canvas. Apply the transformation.

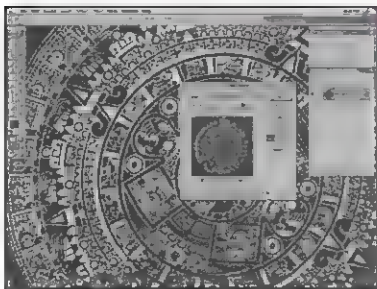
18 Change the blending mode of the layer to **Luminosity**, and rename the layer 'ruins 1'. Open **ruins 2.jpg**. Select the Pen Tool from the toolbox, specify the **Paths** function in the tool options bar, and draw a closed path around the ruined temple, to separate it from the sky. Use straight and curved line segments to create a precise border. Select the **Work Path** in the Paths palette.

19 Choose **Make Selection** from the Paths palette menu, turn **Anti-aliasing** on, and have no **Feather radius**. Choose **Edit > Copy** in the menu. In your work file, click the 'Create new channel' icon to create a new alpha channel. Choose **Edit > Paste** from the menu. Use **Free Transform** to flip the selected channel contents, reduce the size, and place it to the lower left of the image. Apply the transformation.

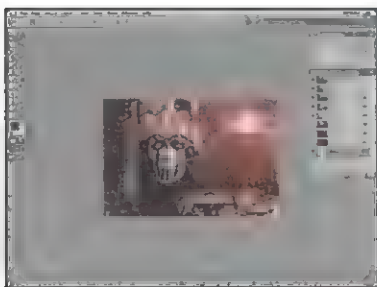
20 Click 'Load channel as a selection'. Select **New Layer** from the Layers palette menu. Name the layer 'ruins2'. Select the Eyedropper tool and sample a light yellow colour in the image. Select **Edit > Fill** from the menu, choose **Foreground colour** with a normal blending mode, an opacity of 100% and click **OK**. Draw a selection around the temple ruins on this layer with the **Rectangular Marquee tool**.



21 Select **Edit > Transform > Distort**. Grab the upper-left corner handle and drag it down a little. Grab the upper-right handle and drag it up a little. Do this until the top of the temple is flat, and apply the transformation. In the Channels palette, hold down [Ctrl] (PC), or [Command] (Mac) and click the 'priest' channel to create a selection from it. Delete the contents of the current layer's selection. Deselect.



22 Open 'sun.jpg' from the CD. Choose **Select > Color Range** from the menu. Use the Eyedropper tool to click on a black area in the image window. Increase Fuzziness to 81 to boost the colour range to be included in the selection. Choose **Greyscale** from the selection preview so you can have a good look at the selected area. Click OK to generate the selection. Select **Edit > Copy** from the menu.



23 In the work file, create a new channel in the Channels palette. Name it 'sun'. Click on **Image > Adjustments > Invert** to change the background to white. Select **Edit > Paste**. Make the composite channel visible via the Channels palette. Click **Edit > Transform > Scale**. Hold down [Shift] and Resize the selected area. Reposition and apply the transform. Create a selection from the channel. Invert the selection.



24 Create a new layer in the Layers palette. Use the Eyedropper tool to sample a light yellow colour from the image. Then select the Gradient tool. Specify a Radial Gradient with a fill of 'Foreground to transparent', set to 100% opacity. Click and drag within the active selection to introduce a soft gradient on the new layer. Deselect when you have finished.



Planning a selection

When you are planning on generating a selection based on a range and colour tolerance, like when using **Color Range** or the **Magic Wand** tool, try to make the colour as pure and prominent as possible. If you have a green area sitting against black that you'd like to isolate, try adjusting the colour of the green first using a tool like **Selective Color**, then use your selection tool.



Hiding selection edges

When you are performing a **Transform** function to a complicated selected area, you may find it difficult to see clearly what is happening though the selection marquee border. There is a way to hide this border without exiting **Transform** mode. With the bounding box still visible, select **View > Show > Selection Edges** from the menu to uncheck **Selection Edges** in the menu and hide them.



Introducing vectors

» Now we'll use Photoshop's vector creation and manipulation tools to add custom shapes



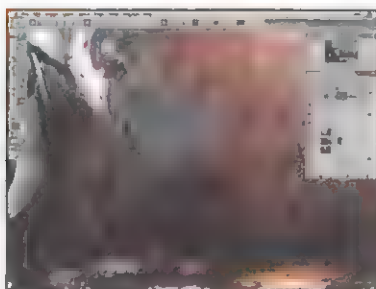
Aligning shapes

Getting into the habit of using the Align functions can save you a lot of time in the long run. Like Illustrator, Photoshop has a plethora of shape alignment tools. Just remember that you must have the Path Selection Tool selected for them to be visible in the tool options bar. Even if you have shapes currently selected, if you have the shape tool specified in the toolbox and not the Path Selection Tool, the Alignment options won't appear.

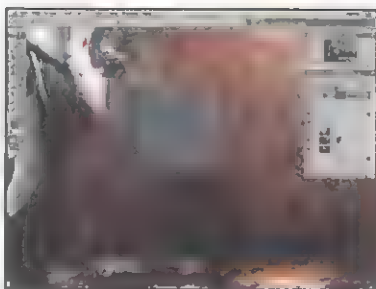


Saving shapes

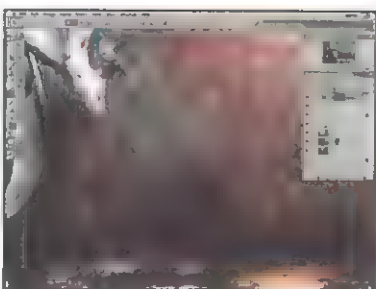
It is always a good idea to save any custom shapes you have created, just in case you accidentally delete them. That way you can instantly recreate the shape later without much effort. To save a shape as a custom shape, right-click (on a PC) on the shape, or hold down the [Control] key (on a Mac) and click on the shape. Select Define Custom Shape from the pop-up menu to add it to the Custom Shape Preset Picker.



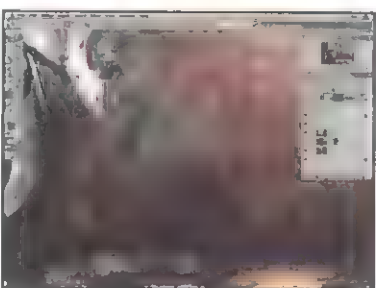
25 First, select the Eyedropper tool from the toolbar and click on one of the blue colours in the image to sample it for the current foreground colour. Select the Ellipse Tool from the Shape Tool pop-up menu in the toolbox. Hold down the [Shift] key to constrain the aspect ratio of the shape and click and drag to draw a perfect circle to the right of the face.



26 Choose the Path Selection Tool from the toolbar. While holding down [Alt] (on a PC), or [Option] (on a Mac), click and drag the circle shape to make a duplicate of the shape within the same shape layer. From the menu, choose Edit > Transform Path > Scale. Hold down [Shift] to constrain the aspect ratio of the shape and click and drag on a corner handle to reduce the size slightly.



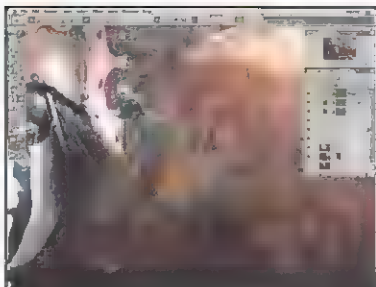
27 Apply the transformation by pressing the [Enter] key. Then, with the shape still selected, click on the 'Subtract from shape area' button in the tool options bar. Using the Path Selection Tool, hold down the [Shift] key and click on the original shape so that they are now both selected.



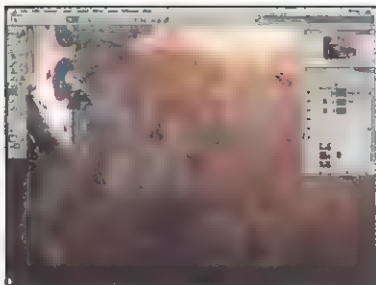
28 With both shapes selected, go to the alignment buttons in the tool options bar. Click the 'Align vertical centres' button to align the two circles vertically. With the two shapes still selected, click on 'Align horizontal centres' so that the two shapes are perfectly aligned, one on top of the other. Click the Combine button in the tool options bar to create a combined shape from the two circles.



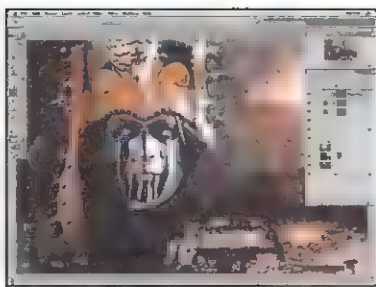
29 With the Path Selection Tool, hold down the [Alt] key (on a PC), or [Option] key (on a Mac) and click and drag the new shape to create a duplicate. Repeat this to create a number of duplicates on the same shape layer. Then draw a marquee around all of the shapes using the Path Selection Tool to select them, and choose the 'Align vertical centres' option in the tool options bar.



30 Change the blending mode of the layer to Color in the Layers palette. Choose Layer > Duplicate in the menu. Change the blending mode of the duplicate layer to Soft Light. Sample a yellow colour from the image with the Eyedropper. Use the Elliptical shape tool to create a circle on a new shape layer that sits inside the previous shape. The blending mode is the same as the previous shape layer.



31 Create a duplicate of this shape on the existing layer the same way that you did on the previous shape layer. With the duplicate shape selected, click on the 'Subtract from shape area' button in the tool options bar to subtract this shape from the first shape creating a partial moon. Use the Path Selection Tool to draw a marquee around both of the shapes, selecting them.



32 Hold down [Alt] (PC), or [Option] (Mac) and drag the selected shapes to copy them. Place them inside another of the existing blue circular shapes in the image. Select the shape with the Subtract option applied to it and move it to create a different moon phase. Repeat this to create differing moon phases on this layer. Change the layer's blending mode to Color Dodge. Reduce layer opacity to 35%.



Stacking shape layers

You can create some interesting effects by changing the blending modes of your shape layers, duplicating them, and changing the mode again, and again and again and so on. You may be pleasantly surprised to see what effects can be achieved with creative use of blending modes. Remember, blending modes aren't just for pixel data layers.



Arrow keys

The arrow keys on your keyboard will come in handy when you want to perform slight movements to your selected shapes. Clicking an arrow key will nudge the shape in the direction of the arrow. This procedure is best performed when you are zoomed in close in your view so that you can witness the subtlety of the movement.



Finishing touches

»

Now that we have all the elements in place it's time to polish things up a little



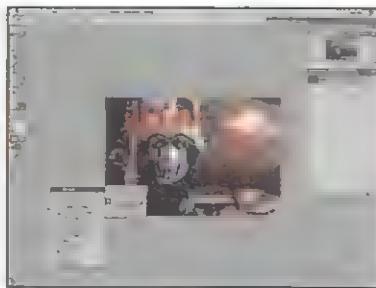
Change your mind?

If you have performed a series of transformation functions and you don't like the result, you are not obligated to apply the transformation. There is a way to exit the transformation box and leave your target untouched. All that you need to do is click on the Cancel Transformation button in the tool options bar or type [Esc] on the keyboard.



Shape layers and paths

When you have a shape layer selected you will notice that the vector mask from that layer appears in the Paths palette. But the moment you select another layer in the Layers palette, the vector mask disappears. The way to keep a copy of that path in the Paths palette at all times is to create a duplicate of it while it is visible. The duplicate has no link to the shape layer and therefore is a permanent path.

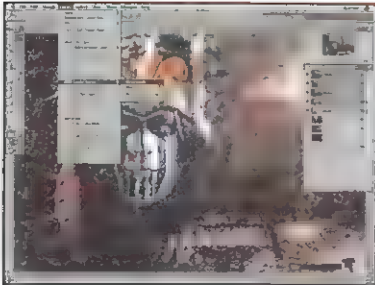


33 Use the Eyedropper tool to sample a very light yellow colour from the image for the foreground colour. With your newest layer selected in the Layers palette, switch to the Paths palette and you will notice that there is a temporary path active that is your current shape layer's vector mask.

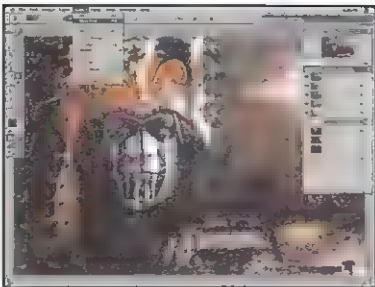
34 Select the Brush tool from the toolbox. In the tool options bar select the hard round three-pixel Brush from the Brushes preset picker. Open the Brushes palette by clicking the toggle button in the tool options bar. Untick shape dynamics so the brush paints a uniform stroke. Duplicate the current Path in the Paths palette by dragging it onto the 'Create new path' icon. It will name itself 'Path 1'.

35 Select Layer > New > Layer from the menu to create a new layer in the Layers palette. Select the Path Selection Tool and draw a marquee around all of the sub-paths within Path 1 in the Paths palette to select them. Select Stroke Path from the Paths palette menu. Choose the Brush tool from the pull-down menu, in the resulting dialog box and click OK to add a stroke on your new layer.

36 In the Layers palette, change the blending mode to Hard Light and reduce Opacity to 40%. Link the current layer to the other shape layers by clicking the column to the left of their icons in the Layers palette. Select Edit > Free Transform. Click on a corner handle while holding [Shift] to reduce all the lined layers proportionately and move the bounding box down to overlap the ruins.



37 Choose **Layer > New > Layer Set From Linked** from the menu. This will place all of the current linked layers inside a new layer set. In the Channels palette, generate a selection from the 'carving' channel we created much earlier. Then, from the menu choose **Layer > Add Layer Mask > Reveal All** to add a layer mask to the set.

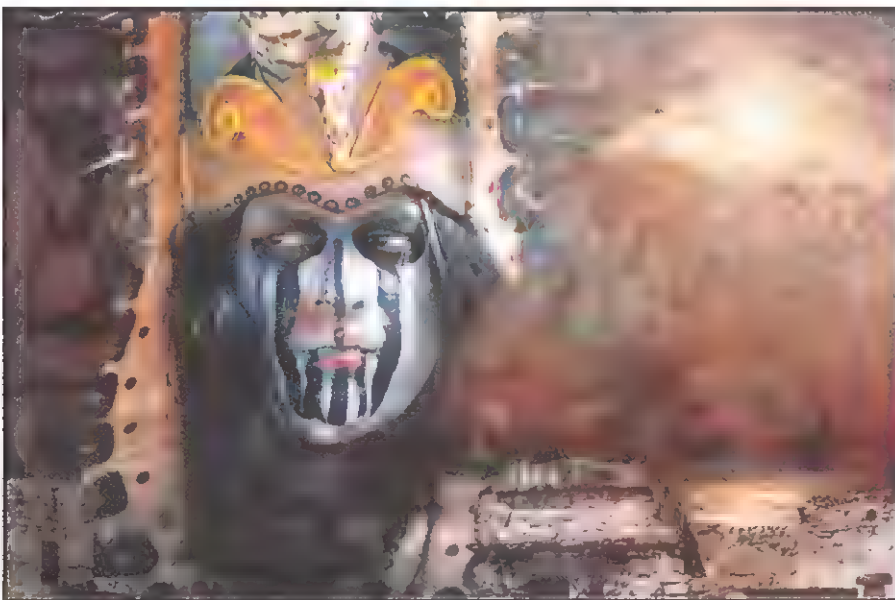


38 Select the Gradient tool from the toolbar, type [D] to set the foreground colour to its default black. Specify a radial gradient with the 'Foreground to transparent' option selected and draw a series of gradients inside the selection to mask out some of the areas of the layer set. When you are finished, choose **Select > Deselect** from the menu. And don't forget to save your file.



Stroking paths

In the Paths palette, when you select the **Stroke Path** function from the Paths palette menu, you are presented with a dialog box that prompts you to select which tool to use to stroke the path. Once you select the tool, the procedure will be carried out and you will not be given any opportunity to edit the tool options. So make sure that you have set your tool options exactly how you want them before you stroke the path.



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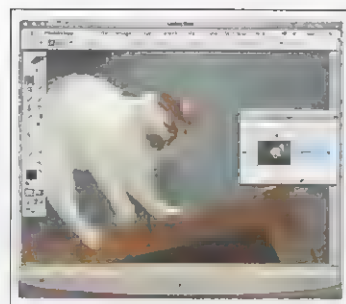
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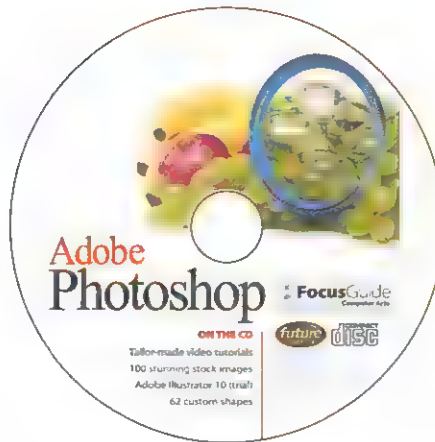
Selection techniques explained by resident expert George Cairns

To complement the printed tutorials in this issue, Photoshop expert George Cairns has contributed a range of video tutorials covering various techniques for making selections and custom vector shapes. Among the techniques explored are Marquee, Lasso, Magic Wand, Masks and Paths. There are a total of seven movies lasting over 40 minutes – these offer an ideal way to get you started using these more advanced tools, which can seem rather daunting at first. The tutorials are supplied in QuickTime format, if you have trouble viewing them you may need to download the latest version of the QuickTime Player software from the address below.



Photoshop expert George Cairns describes the Pros and Cons of various selection techniques.

www.quicktime.com/download



before attempting to install any software on a networked PC.

Installation

Once inside you'll see a range of options along the top of your screen. Click on the relevant link in the menu bar to access the file or program that you require. To install the custom shapes from GraphicXtras simply drag the .CSH files to the relevant preset folder within your Photoshop installation. Note that our own video tutorials require QuickTime Player, while the videos from PSXtras

require Windows Media Player. If you have a query about your disc, email our support team (support@futurenet.co.uk) for help. If you want to talk to a member of the team, call 01225 822743. Note that we can only provide basic advice on using the interface and installing software. We cannot give in-depth help on specific applications, or on your particular system configuration.



Starting your installation manually

PC users: click on the Windows Start button and click Run. Then click Browse and go to the CD directory in My Computer. Look for a file called PFGi.exe and double-click it. Then click OK in the Run dialogue, and the CD should then load up.
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PSXtras:

Here you'll find an extra four video tutorials on the Pen Tool, Layer Masks and Paste Into functions, plus 50 photographic images. www.psxtras.com

WZ3K

This handy resource contains five PDF format tutorials, including selections, layers and edge masks. You'll need Adobe Acrobat Reader. www.wz3k.com

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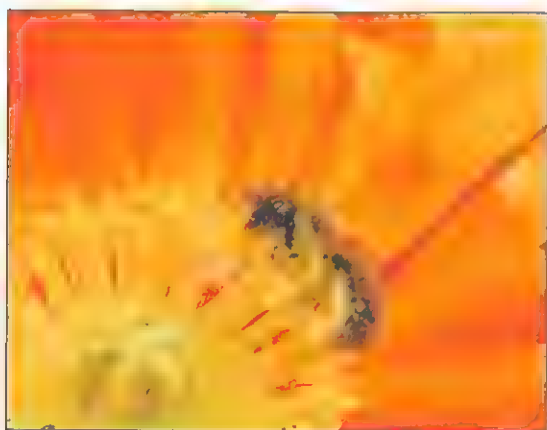
Online options

A great many images are available online at the Image*After website. Point your browser at www.imageafter.com for more details.

There is a vast collection of high-quality photographic images – both pure photographs and photographic textures – available for from the Image*After website, and we've included a huge sample selection of these on the CD. These are *not* high-definition commercial-quality images like the ones supplied in our last issue, but they will be ideal for your own compositions.



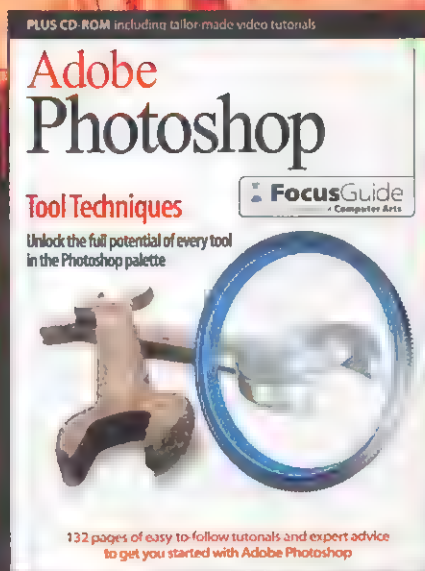
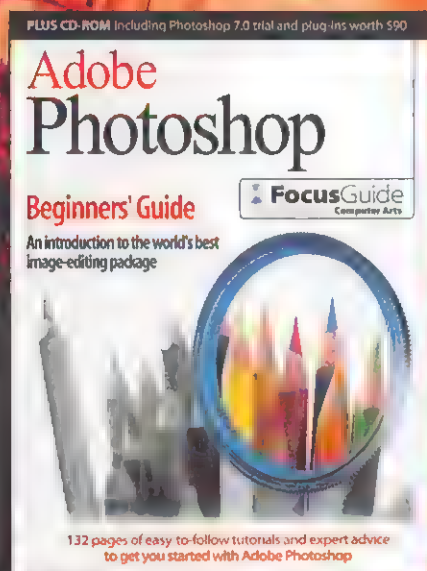
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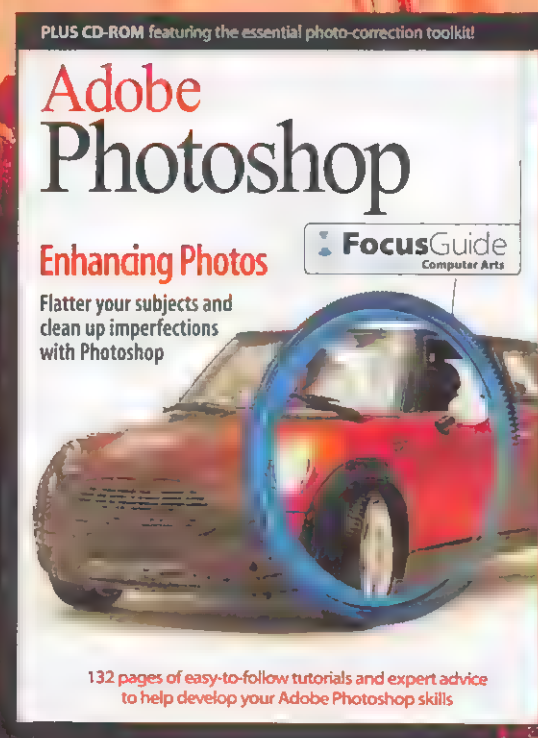
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ISSUE 6 ON SALE 15 JANUARY

Glossary

Confused by Photoshop-speak? Here's our handy guide to essential terms found in this Focus Guide

Alpha channel

Alpha channels are stored alongside colour channels (see below) in the Channels palette. They store greyscale information that enables you select (or mask out) areas of your image very accurately.

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Brush

Brushes enable you to paint on Photoshop images with colour, other bits of images and pre-defined patterns. They mimic real brushes in that you can alter the size, hardness and texture in order to achieve the effects you want.

Colour channel

There are three colour channels in all colour images: red, green and blue. Each one contains information specific to that colour. Photoshop enables you to alter each channel independently, making it possible to reduce grainy blue skies without affecting the rest of an image, for example.

Feathering

Softening the edges of pixels in a selection, so that they will blend smoothly when moved elsewhere. Photoshop does this by only partially selecting some of the pixels around the edge of the selection.

Filter

One of Photoshop's preset tools that applies an effect to an image (or a selection within

the image). Examples include sharpening, blurring, creative and artistic filters. You'll find a complete list by clicking in the Filter menu at the top of the Photoshop window.

GIF (or .gif)

A type of image file format best suited for producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Almost all digital camera files, for instance, will be in colour. But you can turn them into black and white with many fine gradations of grey, from within Photoshop by turning them into greyscale images.

Image size

This refers to the physical size of an image. For instance, a photograph you are working on may be 20x15cm. This matters most when you come to printing out the image.

JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file sizes and good quality photo reproduction. It is commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layer

Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath

them, in the same way that a blurry piece of glass placed over a photograph does not actually affect the photograph – in both cases, it is the appearance that is changed, leaving the original untouched.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Navigator

In Photoshop's default screen layout, the Navigator is positioned in the top-right corner and gives you access to the whole image, even if you are currently zoomed in to a specific part. The red box within the Navigator image denotes the area that is currently on screen; you can move around your image by clicking and dragging the red box around the Navigator image.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images.

Selection

Any part of an image which you select with Photoshop's tools, shown by a marquee around it. You can then work on certain parts of an image, or remove then without affecting the rest.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find them in folders of images and in Photoshop's File Browser. Because they're smaller than a full size image you can browse

through them more quickly, which makes finding the file you're after far easier.

Pixel

An abbreviation for 'picture element', it is essentially a tiny dot of colour on screen. Most images are made of up millions of pixels, which combine to make an image look seamless. Zoom in very close on an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you have made to remain editable when you next open it.

Tool options bar

When a tool is selected, the corresponding tool options bar automatically appears at the top of the Photoshop window, giving you access to various options, including such things as Anti-aliasing and Feathering.

Transformation

A transformation is a Photoshop function that manipulates the shape, size and proportions of an object or image.

Vector

A 'vector' is a type of graphical element. In Photoshop graphics are usually 'pixel-based', which means they are difficult to manipulate without affecting their image quality. The advantage of vectors is that they are 'resolution independent', so can be scaled up and down, and resized without loss of quality.

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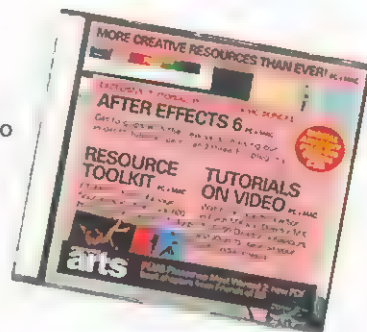
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